GULF COAST NUMBER

50c

OIL WEEKLY

OIL AND GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

● For use with the HOWCO Tester, we have developed an instrument which permanently records all hydrostatic pressure changes while a productivity test of a formation is being made.

Briefly, the record shows: (1) the increasing pressure while the tester is being run; (2) absolute proof as to the opening of the tester valve after the packer is set; (3) the pressure changes due to flow of fluid, if any, from the formation through the tester; (4) the rate of build up of natural bottom hole pressure after the tester valve is closed; (5) the initial natural bottom hole pressure of the well before the packer is released; and (6) the decreasing pressure changes while the tester is being pulled out of the well.

This important new feature is the result of many experimental tests and is now available in some of the fields; they are being made as fast as possible to be made available in all fields. Tests have also been made on recording temperatures which will be available soon.

HALLIBURTON OIL WELL CEMENTING CO.

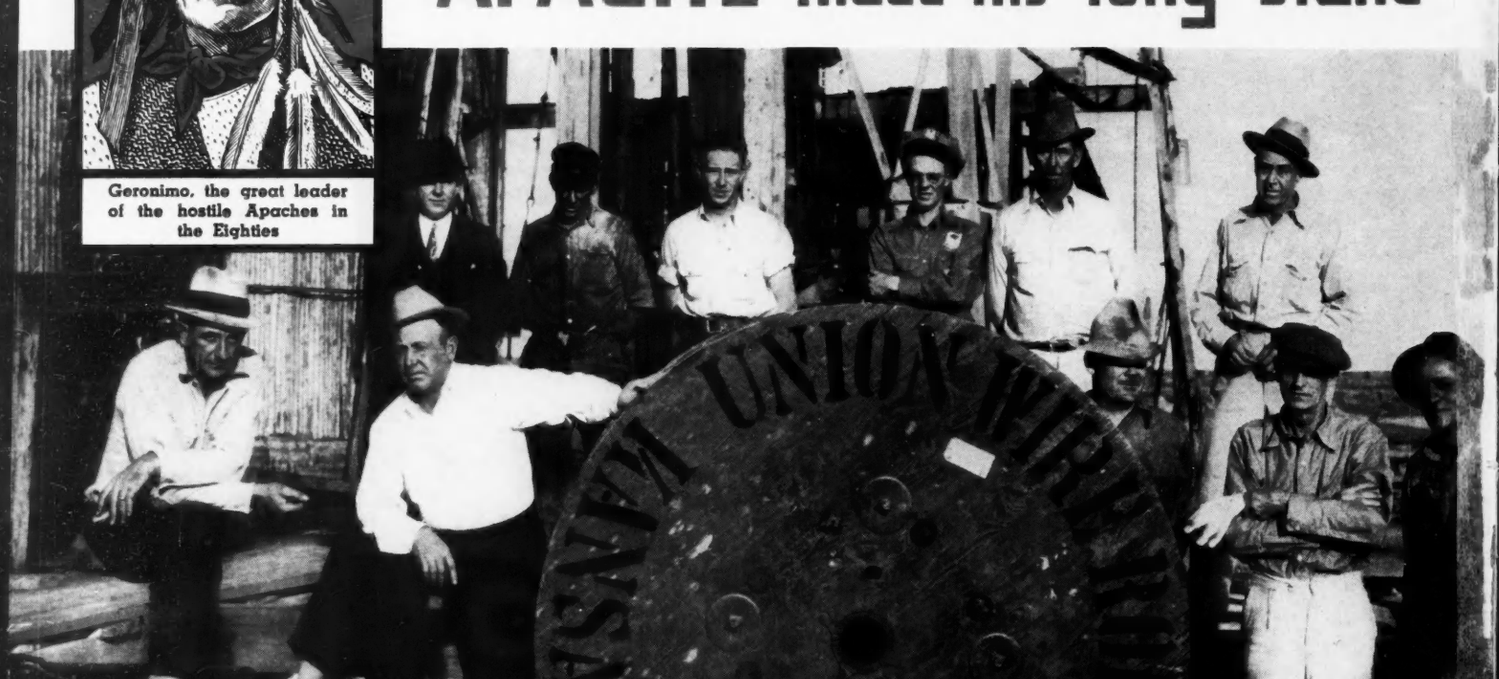
DUNCAN, OKLAHOMA

IS ISSUE MORE
AN 16,750 COPIES

MARCH 16, 1936
VOLUME 81, NUMBER

IN NEW MEXICO where the APACHE made his long stand

Geronimo, the great leader of the hostile Apaches in the Eighties



UNION WIRE LINES are Showing *Apache Endurance*

It was in New Mexico—the "Sunshine State" — that the Apache Indian made his astonishing 300-year stand against the white man. This was no accident. For besides having a "cast-iron constitution", the Apache was thoroughly familiar with his desert home and had schooled himself to endure its hardships.

Likewise it doesn't "just happen" that UNION Lines are standing the punishment of deep drilling. For besides being made from steel in accordance with specifications of UNION Wire Rope mill engineers, these lines are especially designed to meet oil field conditions.

The photograph shows Getty Oil Company's Getty-Dooley No. 7, 16 miles east of Carlsbad, on which a UNION 1-inch 9,000-foot Mild Plow driller is being used. The well was down 6,683 feet when the picture was taken. The men, left to right, are: Front row: E. A. Paton, contractor; O. S. Brewer, driller; Ralph Griffith, Getty Oil Co.; Frank A. Miller, driller; W. R. Chapman, tool dresser. Back row: H. R. Cutlip, Union Wire Rope Corp.; Arthur Paton, tool dresser; W. R. Chapman, Jr., and J. T. Caudle, visitors; George Jones, Getty Oil Co.; F. D. Houston, tool dresser.

HOW THE APACHES MADE HISTORY

The Apaches of New Mexico and Arizona were last of the Indians to be conquered. After making surprise raids on white settlements, they would race to the desert. In this unfamiliar wasteland the white man was at a great disadvantage.

Because they had steeled themselves to endure hardships, the Apaches could live on almost nothing. When without water, they chewed the moist fiber of the cactus. For food they could get along on mesquite beans and roasted grasshoppers. And if deprived of their ponies they could travel 60 miles a day on foot.

They finally surrendered in 1886, after being hopelessly outnumbered by white troops with superior fighting equipment.

UNION WIRE ROPE CORPORATION

Executive and Sales Offices: 601 Beacon Life Bldg., Tulsa, Okla.

Factory and Gen. Office: Kansas City, Mo. Branch: Portland, Ore. Warehouse: Monahans, Tex.

In Mexico: E. O. CHAPA, P. O. Box 604, Tampico, Tampa, Mexico; Stocks at Tampico, Mex.

JARECKI MFG. CO.

Distributors: Midcontinent, New Mexico and Eastern Oil Fields

MARION MACHINE FOUNDRY & SUPPLY CO. Rocky Mountain Fields, except New Mexico

Exclusive Export Agents: LUCEY EXPORT CORP. Woolworth Bldg. New York; Broad St. House, London.

UNION WIRE LINES

The "ULTIMATE LOW COST WIRE ROPE"

You DO NOT NEED TO BE A Sherlock Holmes
TO FOLLOW THE TRAIL TO SAFETY AND PROFITS WITH A
BAKER ROTARY WALL SCRAPER
STARTS SHOULDER TO STRAIGHTEN CROOKED HOLE
ALWAYS COMES SAFELY OUT OF HOLE
INCREASES DIAMETER FOR SETTING LINERS WITHOUT TURNING DOWN COUPLINGS
SCRAPES AWAY OLD CEMENT WHEN RE-CEMENTING
REMOVES PLASTERED MUD FOR BRINGING IN WELL EASIER
EXPOSES ORIGINAL FORMATION FOR BETTER BOND WHEN CEMENTING CASING
ENLARGES HOLE FOR SETTING LARGER SIZE CASING
BAKER
THE trail
STARTS ON PAGE 187 OF YOUR 1936 COMPOSITE CATALOG
BAKER OIL TOOLS, INC.
POST OFFICE BOX 71, HUNTINGTON PARK, CALIFORNIA
COALINGA • TAFT • HOUSTON • OKLAHOMA CITY • TULSA • NEW YORK

BUSTING RECORDS WITH THE "GUMBO BUSTERS"

American Well and Prospecting Company's new "Gumbo Buster" Traveling Block and Crown Block. Tremendous load-carrying capacity and smooth operation are assured with American Bearings.

AMERICAN Bearings have established notable records for handling tremendous loads with velvet smoothness in the American Well and Prospecting Company's "Gumbo Buster" Crown Blocks and Traveling Blocks—as well as in practically ALL the Blocks now favored in the industry for the most gruelling service.

American Bearings are extremely easy to install. Unskilled labor suffices. Incorrect installation is impossible. And once installed they *never need adjustment.*

No better roller-bearing steel is known. It stands up under the most severe strains and loads of deep drilling.

Extreme simplicity of design assures maximum load-carrying capacity and even load distribution.

American Bearings are unexcelled in friction reduction. Power loss is cut to a minimum.

Inquiries on any type installations are invited.

AMERICAN ROLLER BEARING COMPANY
PITTSBURGH, PA.

★ AMERICAN ★
Heavy Duty ROLLER BEARINGS

16 YEARS CONTINUOUS SERVICE

Because of
RELIABLE
and
ECONOMICAL
PUMPING
SERVICE SINCE
1920

INSTALLED AUGUST, 1920, AT GOOSE CREEK

PURCHASED ELECTRIC POWER

INSTALLED JANUARY, 1936, AT PIERCE JUNCTION

IS AGAIN
SELECTED
by this
OPERATOR
in
1936

HOUSTON LIGHTING & POWER CO.

LOW COST POWER

GENERAL OFFICE HOUSTON, TEXAS

GETS THE LOAD IN AND OUT OF THE OIL FIELDS » » » »

OIL production men have come to accept as a matter of course the FWD's ability to get in and out of places that stop an ordinary truck.

But *controlled power* offers more than unusual traction performance; it is assurance of dependable performance, regardless of conditions, at lowest cost — the economy of steady, trouble-free transportation to and from location.

The scientific *power* and *load* distribution over four driving wheels, exclusive to FWD design and construction, makes *controlled power* possible. It is the basic element of a fine truck, distinguished for mechanical excellence and economical service.

The FWD is the original four-wheel-drive truck, embodying the highest perfection of the four-wheel-drive principle — it puts 88.2% of its developed horse-power to actual work. Let us give you the facts on its *controlled power*.

FWD

THE FOUR WHEEL DRIVE AUTO CO.
CLINTONVILLE, WISCONSIN

TRUCKS
1½ TO 15 TONS

5 STEPS TO UNMATCHED TRUCK PERFORMANCE » » »

1. GREATER SAFETY. Front axles are set back, resulting in **power,** as well as load being distributed to all four wheels. This gives the FWD sure footing on slippery pavements, in congested traffic, and when going around curves.

2. GREATER DEPENDABILITY OF SERVICE. Reserve power, rugged construction throughout, and true application of the four-wheel-drive principle, insure continuous operation under any condition. Backed by a nation-wide organization of parts depots and service men available at a moment's notice.

3. FASTER SERVICE. FWDs, with their powerful engines, wide range of gear ratios and four-wheel traction cut down trip time by being able to "make" the hills, curves, and poor going, faster than average trucks. No necessity for overspeeding on the straight stretches.

4. WIDER RANGE OF OPERATION. Four-wheel traction enables the FWD to handle its regular hauling job easily and do the tough jobs as a matter of course.

5. OPERATING ECONOMY. Definite savings are made in gasoline, tire wear, maintenance cost, and other "out-of-pocket" expenses. This is the result of equal distribution of power, load, and scientific four-wheel-drive construction throughout.

CONTROLLED POWER ON AND OFF CONCRETE

INTERNATIONAL PETROLEUM EXPOSITION

TULSA May 16-23, 1936

YOU CAN'T AFFORD TO MISS IT

Knowing the world-wide importance of the far reaching improvements and advancement made during the past two years, and recalling the great practical and educational value of its previous expositions, the world leaders in the petroleum industry are preparing to attend the Ninth International Petroleum Exposition when it opens in Tulsa in May.

Executives, engineers, superintendents, purchasing agents and other key men in all branches of the petroleum industry, are planning to attend. Manufacturers and distributors of equipment, material and supplies are assembling their greatest exhibition. Societies, Associations, Bureaus and Departments are planning exhibits, demonstrations and meetings.

On May 16th the world's greatest industrial exposition will open its doors to the largest attendance in its history.

Phone, wire or write for complete information, to—

WM. B. WAY, General Manager

Phone 6-2171 Tulsa, Okla., U. S. A.

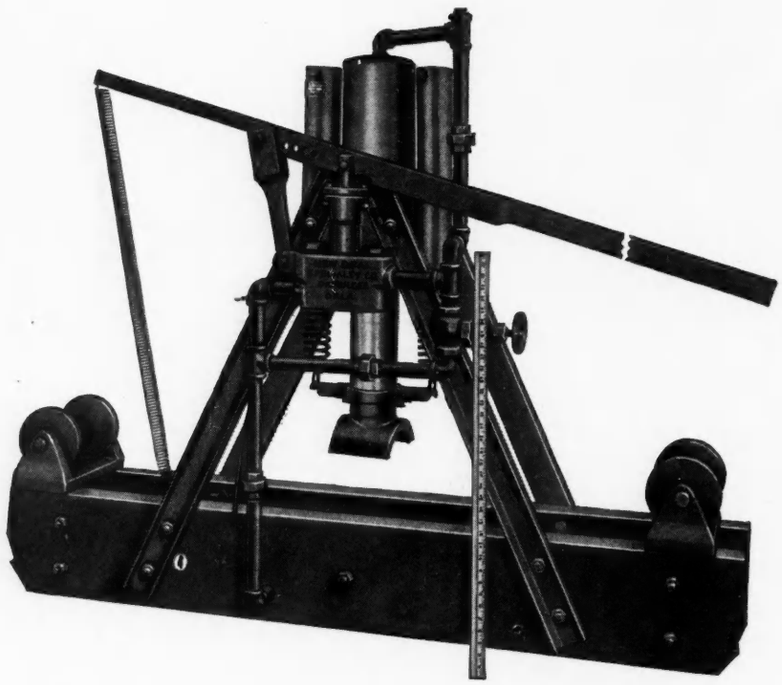
The World's Fair of the Oil Industry

Let "BIG SHORTY" *Straighten Your* KELLY and DRILL STEMS, Etc.

New Model "E" Pipe Straightener Will Set on Derrick Walk

»

Strong, Compact Portable Unit Exerts 45,000 Lbs. Pressure



Note size of "Big Shorty" compared with Yardstick shown in above picture.

THE NEW MODEL "E"—"Big Shorty" Duo-Hydraulic Pipe Straightener is a Hand Operated Unit. Only 5 ft. High on a 6 ft. steel frame. Has a 12 inch stroke. An efficient machine for straightening Rotary Drill Pipe, Kellies and other uses.

The smallest, strongest and most compact pipe straightening machine on the market.

LOW COST • LOW MAINTENANCE

Specially designed for use of those whose work is widely scattered and where equipment must be transported often and at least expense

SEE YOU AT THE INTERNATIONAL PETROLEUM EXPOSITION 1936 9TH WORLD'S FAIR OF THE OIL INDUSTRY TULSA, U.S.A. MAY 16 TO 23

We have four other models of Pipe Straighteners:

MODEL "A" HAND OPERATED **MODEL "B" WITH HIGH SPEED PUMP**
MODEL "C" WITH HIGH PRESSURE PUMP
MODEL "D" BEN-FRANKLIN "SPECIAL" WITH BOTH HIGH PRESSURE AND HIGH SPEED PUMPS.

Write for Complete Information.

The NEW DEAL SPECIALTY CO., Inc.

P. O. Bin 911 **OKMULGEE, OKLAHOMA** **Telephone 2078-LD-14**

EXPORT:

3505 Woolworth Building, New York, N. Y. **LUCEY EXPORT CORPORATION** **Broad Street House, London, E. C. 2, England**

The NEW Guiberson Control-Head PACKER

New "Type G" Guiberson Control-Head Packer

a new, improved model of the world's best packer

The GUIBERSON Control-Head Packer has long been recognized as the world's *best*—because when running into the well its patented top valve or "control head" remains open and permits passage of fluid between shell and core of the packer.

This permits the packer *to run in against heavy flows.* It can be run successfully in wells flowing up to 2,500 barrels.

Now the Model G offers 4 improvements: (1) Packing is Dupont Company's "Duprene", a synthetic rubber which is unaffected by oil and gas, is proof against sticking, and is more durable than rubber; (2) two narrow rubbers instead of one wide one increase the certainty of a tight pack; (3) slips now operate on dovetail tracks, insuring accurate alignment and operation; (4) this model has increased by-pass space.

For full details on this and other GUIBERSON patented specialties see our complete catalog, pages 547 to 574, 1936 Composite Catalog of Oil Field and Pipe Line Equipment.

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

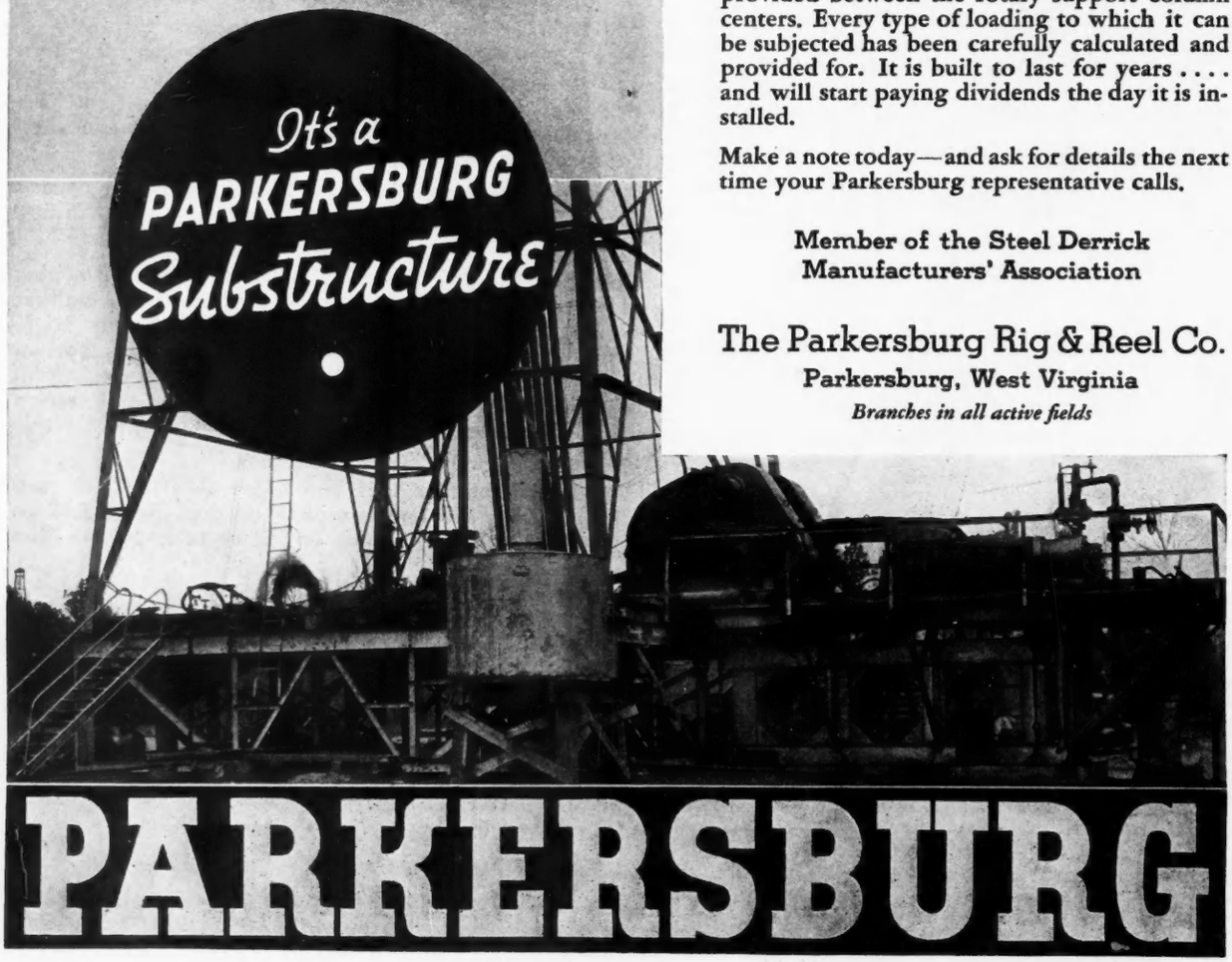
TULSA: 504 Wright Bldg.; HOUSTON: 1635 Norfolk St.;
PONCA CITY: 321 Osage St.; NEWARK, O.: First and Locust Sts.;
LOS ANGELES: W. R. Guiberson Company, 723 E. Gage Ave.

GUIBERSON

BETTER BE SAFE THAN SORRY

This cellar was "dug" with a wrench

--and can be moved to the next location. It will be in use for years to come!



● Obviously, it is impossible to dig a cellar with a wrench. The statement does serve though to illustrate the vast difference between the old style cellars with their expensive, non-salvable wood and concrete construction, and the new improved Parkersburg Steel Substructure.

Steel substructures were pioneered and brought to their highest state of perfection by Parkersburg. Designed originally for use over water or marshes, their time and money saving features have warranted their adoption in fields all over the world. Easily erected, portable, 100% salvable, they meet every requirement for safety and economy.

Drilling crews in particular appreciate the advantages of having the blowout preventer or master gate valve above ground. It is readily accessible from four sides, and eliminates many of the dangers and inconveniences of the conventional type cellar.

The Parkersburg Type HA Substructure conforms to the standards of the Steel Derrick Manufacturers' Association. It was the first substructure ever built with a concentrically loaded wide flange section applicable to A.P.I. anchor bolt locations. Cellar clearance of 12′x6′6″ is provided between the rotary support column centers. Every type of loading to which it can be subjected has been carefully calculated and provided for. It is built to last for years .... and will start paying dividends the day it is installed.

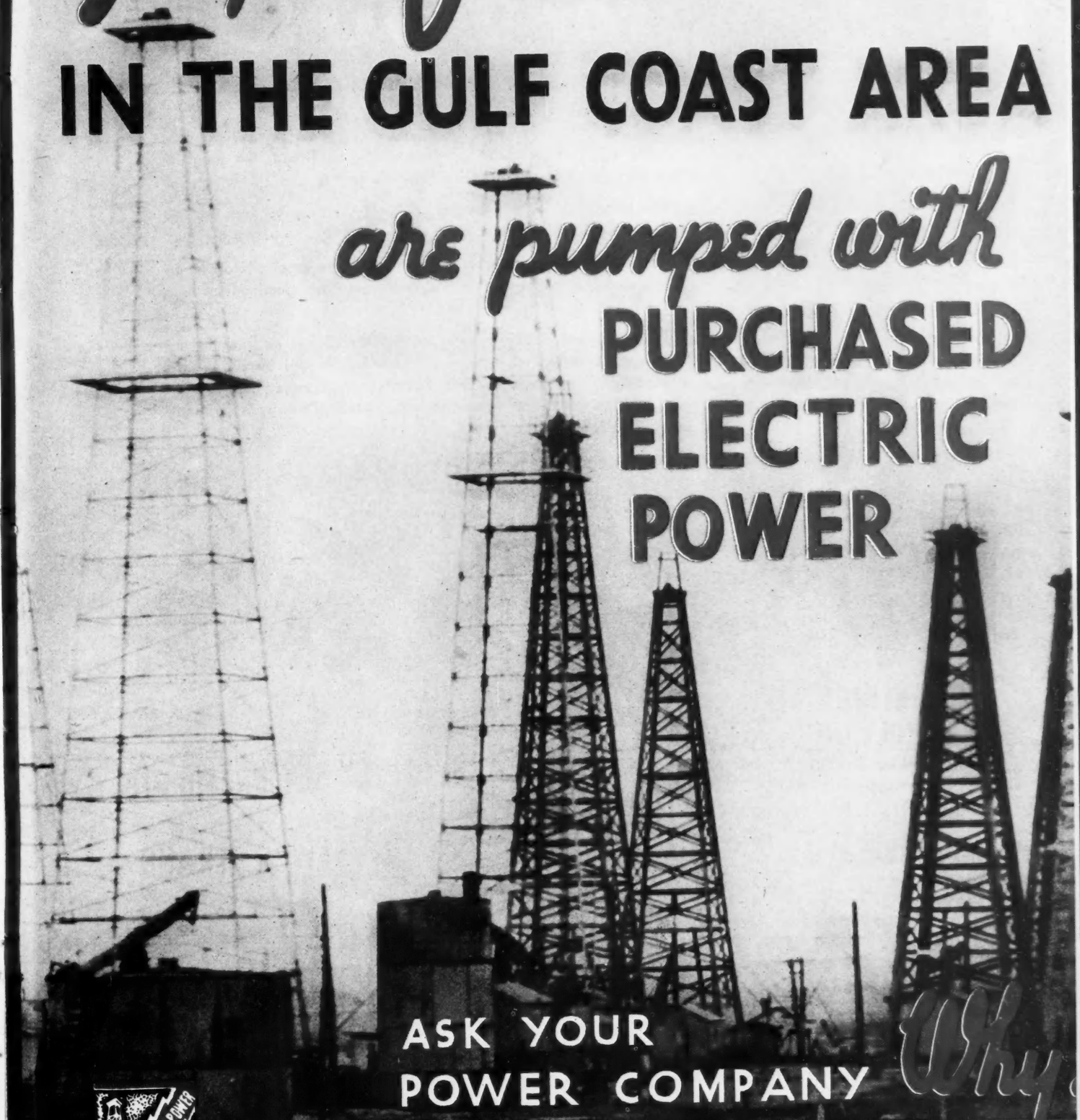
Make a note today—and ask for details the next time your Parkersburg representative calls.

Member of the Steel Derrick Manufacturers' Association

The Parkersburg Rig & Reel Co.
Parkersburg, West Virginia
Branches in all active fields

PARKERSBURG

90% of the wells
IN THE GULF COAST AREA
are pumped with PURCHASED ELECTRIC POWER



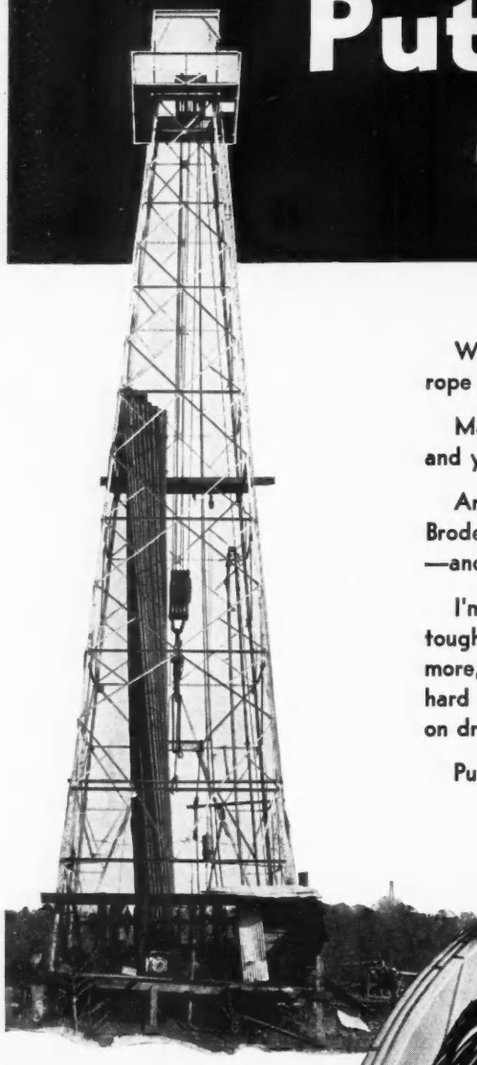
ASK YOUR POWER COMPANY

Okla.

SAVE WITH ELECTRIC POWER

PETROLEUM ELECTRIC POWER CLUB

Put ME to work for YOU!



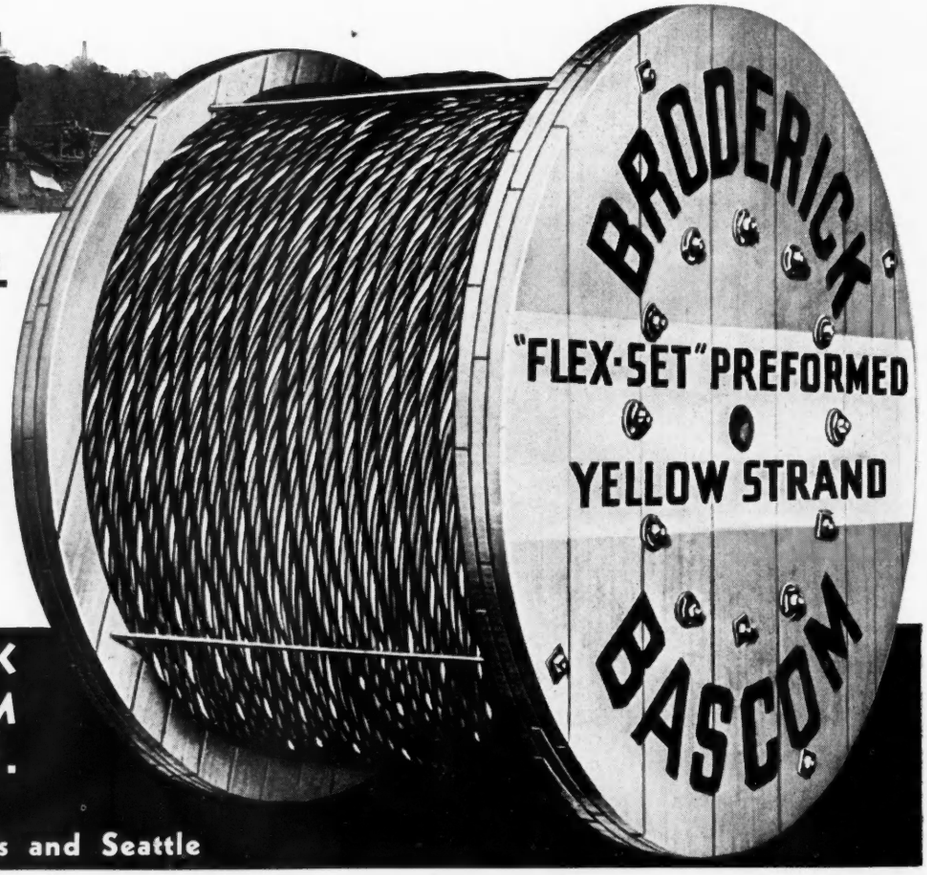
Why not? I'm "Flex-Set" Preformed Yellow Strand, the toughest rope that ever ran and landed a string of casing.

Maybe you think I'm boasting. Well, just put me to work for you and you'll soon find out how tough I am.

And why shouldn't I be tough? My wires are especially drawn to Broderick & Bascom's specifications. And are those specifications high—and exacting! I'll say they are!

I'm preformed, which adds a lot of other good qualities to my toughness. It makes me limber—easy to handle and install. What's more, by preforming, I'm practically pre-broken in, so you can work me hard and fast soon after putting me on. And how I do resist crushing on drums! You'll be surprised.

Put me to work for you right now. I'm tough.



The CONTINENTAL SUPPLY CO.

Mid-Continent and Rocky Mountain Distributors

•

MURRAY-BROOKS HARDWARE CO.

South Louisiana Distributors

T-20R1

BRODERICK & BASCOM ROPE CO.

ST. LOUIS

Factories: St. Louis and Seattle

IDECO

SUBSTRUCTURES

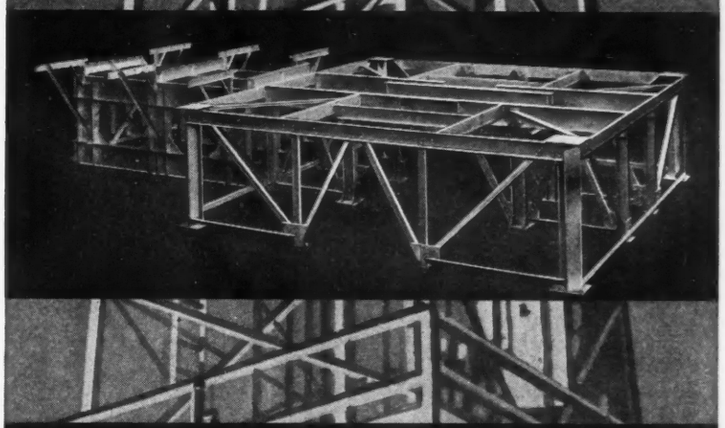
with

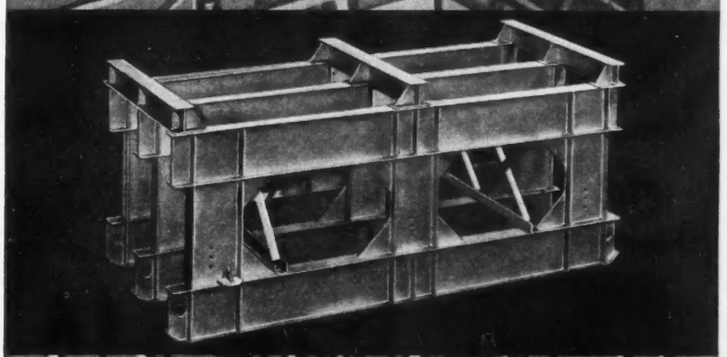
CB-BEAM CORNER COLUMNS

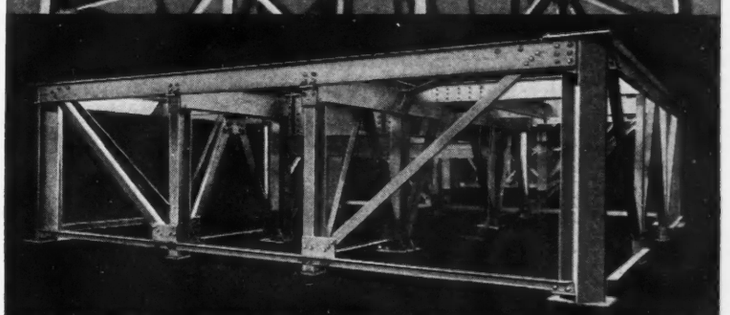
for

SUPPORTING THE DERRICK, ROTARY TABLE and CASING PIPE SET BACK and ROTARY ENGINE

Another mark of achievement in the IDECO complete line of oil field equipment—with "safety", "adaptability" and "sustained efficiency" as the watchwords for true economy







STANDARD SPECIFICATIONS

SIZE OF DERRICK BASE	HEIGHT	CAPACITY LBS.		WEIGHT IN LBS.
DERRICK SUPPORTS (CORNER POSTS AND EXTERIOR FRAMING ONLY)				
24'	73'	1,000,000		6,900
26'	73'	1,000,000		7,200
30'	73'	1,000,000		8,000
ROTARY SUPPORTS (INTERIOR POSTS AND SILLS ONLY)				
		CASING LBS.	DRILL PIPE LBS.	
24'		300,000	250,000	9,300
26'		300,000	250,000	10,400
28'		500,000	250,000	11,500
30'		500,000	250,000	12,600
ROTARY ENGINE SUPPORTS				
	7'8"	Medium		8,000
	7'8"	Heavy		11,000

A design based upon thorough knowledge of field conditions and each installation given individual engineering attention to assure ample safety factors for all loads incident to the job and location, whether "hillside", "river bank", "tide water", "marsh land", or any requirement or condition.

The fact that IDECO Steel Substructures are 100% salvageable makes them particularly desirable for wildcat operations—no rot or corrosion—no fire hazard—but with maximum utility and convenience.

You will find every desirable feature of engineering, construction, fabrication and adaptability in IDECO STEEL SUBSTRUCTURES.

Made in accordance with Standards adopted by the Steel Derrick Manufacturers Association.

You will profit by sincere service from an experienced organization—nation-wide, active, and eager in all its departments.

Write, phone or wire our nearest representative or our main office, Columbus, O.

The INTERNATIONAL DERRICK AND EQUIPMENT CO.

Columbus, Ohio
Beaumont, Tex., Los Angeles, Cal.

Plants • Columbus, Ohio - Marietta, Ohio
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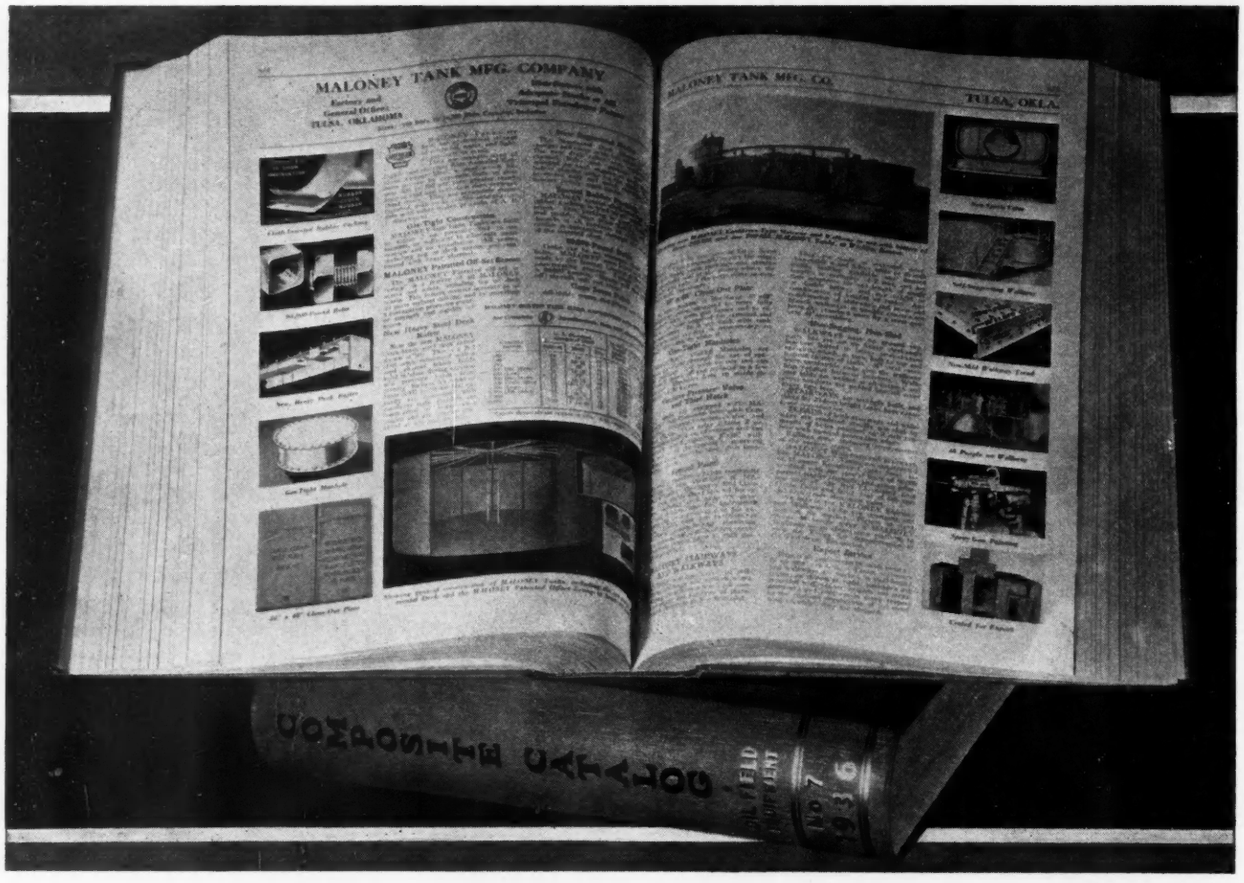
There is No Substitute for Oil Country Experience in the Building of Oil Country Equipment...

BOYKIN IDECO

YEARS of EXPERIENCE the WORLD OVER



JUST REACH FOR YOUR "COMPOSITE"

for full data on Maloney Tanks

HOT-DIP GALVANIZED "SOUR CRUDE" STORAGE

MALONEY TANKS can now be furnished, for "*sour crude*" storage, of "*Special-Heavy Hot-Dip Galvanized*" steel.

Tanks in any standard A. P. I. size are galvanized *after fabrication* by the hot-dip process, the heavy spelter weighing in excess of 5 pounds to 100 pounds of steel. Prolonged treatment in muriatic acid bath assures extra-tight bond between zinc and steel. Galvanizing *after* fabrication means that all edges including bolt holes are galvanized. Also hot-dip galvanized bolts of 90,000 pounds tensile strength; nuts with re-tapped threads.

MALONEY Galvanized Tanks are in every case standard MALONEY Tanks possessing all standard MALONEY features and advantages. Among these advantages are construction of Keystone Copper Steel, cloth-inserted packing of live red rubber, the MALONEY patented crimp at seams and joints, extra-heavy 2 x 2 steel deck rafters, segmental decks, large 30″ x 48″ clean-out plate, non-spark aluminum vacuum-pressure valve and thief hatch.

The pioneer bolted steel tank. Capacities 100 to 10,000 barrels, A. P. I. dimensions.

Maloney Distributors
In Texas, Louisiana and New Mexico

TEXAS

Houston—Rabun & Wynne, 7211 Sherman St.
Pettus—W. E. Kinney
Wink—Garner Tank Co.
Corpus Christi—Callaway & Edwards, Inc.

LOUISIANA

Scott, Lafayette and Rodessa —Rabun & Wynne

NEW MEXICO

Artesia and Hobbs—Folkner & Folkner

MALONEY

PACKED IN STEEL-BOUND CRATES FOR EXPORT

TANK MFG. CO.
38 N. PEORIA
TULSA, OKLA.

for EFFICIENTLY CORING all FORMATIONS

Interchangeable cutter heads assure users of Elliott Rotary Core Drills the same high standard of Elliott efficiency and core recovery in all formations, from the softest to the hardest. Elliott soft formation heads have built up an enviable reputation over a period of many years for making fast hole and high recoveries in the widest range of average formations. For more than a year Elliott hard formation heads have been exceeding all previous records of high recovery, footage, and number of runs without rebuilding or replacement; in the hardest, toughest formations to be found in any oil field in the world. All similar sizes of both types fully interchangeable, which assures the widest range of utility, highest efficiency in service, and the lowest operating costs, with a minimum investment in coring equipment. Complete, detailed information covering both types will be supplied promptly on request.

ELLIOTT CORE DRILLING COMPANY
4731 East 52nd Drive, Los Angeles, California, U.S.A.
Export Office: 1215 Graybar Bldg., New York City

Elliott Soft Formation Cutter Head

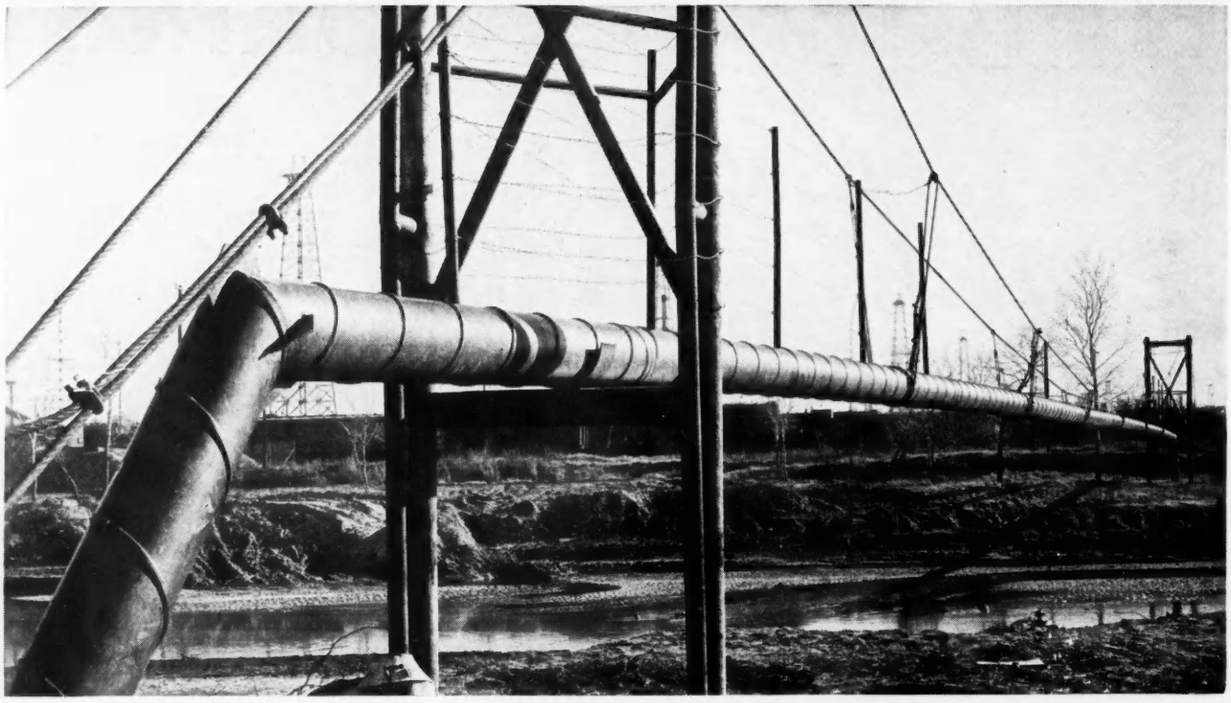
Elliott Hard Formation Cutter Head

The value of Elliott perfected design is apparent in the performance of Elliott Core Drills in all parts of the world . . . fast hole, high recovery of good cores, and trouble-free operation with the highest factor of safety

The Elliott Rotary Core Drill complete, with soft formation cutter head.

ELLIOTT Rotary CORE DRILLS

UNOBTAINABLE · · *Elsewhere*



Installation of 20" Naylor Pipe conveying gas, over the North Canadian river.

YOU'LL FIND THESE EXCLUSIVE STRUCTURAL FEATURES ONLY IN NAYLOR SPIRAL LOCK-SEAM WELDED PIPE

The Naylor Spiral Lock-Seam Welded Structure distinguishes Naylor Pipe from all other pipe and provides the following unrivaled advantages:

UNRIVALED STRENGTH

It offers greater structural strength than other light weight pipe made of steel or iron of the same wall thickness.

UNRIVALED FLEXIBILITY

It provides unrivaled flexibility to take care of expansion and contraction under varying temperature changes and ground stress. It insures closer conformity to topographical conditions than rigid pipe structures.

UNRIVALED SAFETY FEATURE

The "heel" (shown in illustration in next column) acts as a cushion which absorbs shock loads, vibration, expansion and contraction stresses and strains at all points—relieving and protecting the coupling medium and the body of the pipe itself from the brunt of these forces.

WELD STAMINA

The Spiral Lock-Seam Welded Structure relieves the weld of expansion and contraction strains. The principal function of the Naylor weld is to seal the pipe leak-tight.

The added strength of Naylor Pipe resulting from the Spiral Lock-Seam Welded Structure combined with the Safety Feature described above enables us to recommend Naylor Pipe for higher working pressures than other pipe of the same wall thickness.

The "SPIRAL-WELD"
The lock-seam takes the load, thereby relieving the weld of any stress, the weld being only a seal.
CROSS SECTION AFTER WELDING. The "Heel" which in spiral form extends the entire length of the pipe is responsible for the flexibility of Naylor Pipe. This flexibility provides for expansion and contraction, shock fluid load and vibration, which are destructive to a weld on a rigid structure.

These exclusive features are reasons enough why Naylor Spiral Lock-Seam Welded Pipe is preferred and specified by engineers.

Call our distributors or any jobber of oil field equipment for prices and descriptive catalog.

PRODUCT OF NAYLORPIPE TRADE MARK

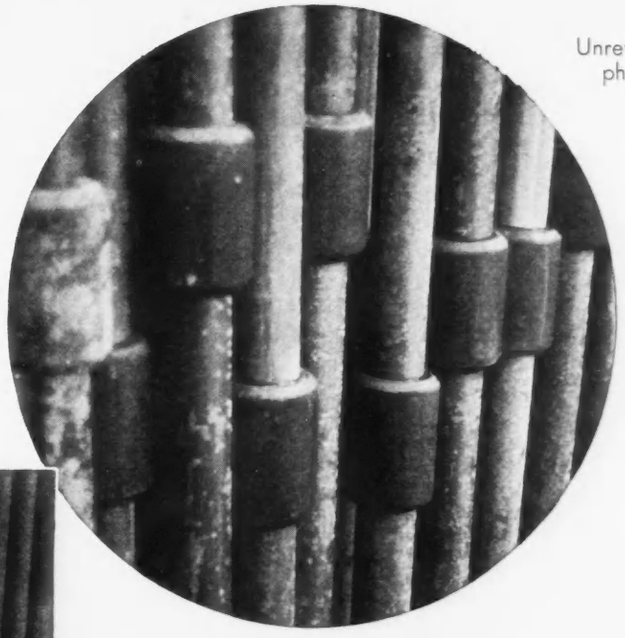
Exclusive Distributors . . . MID-CONTINENT SUPPLY COMPANY . . . Fort Worth, Texas & Branches

NAYLOR PIPE COMPANY

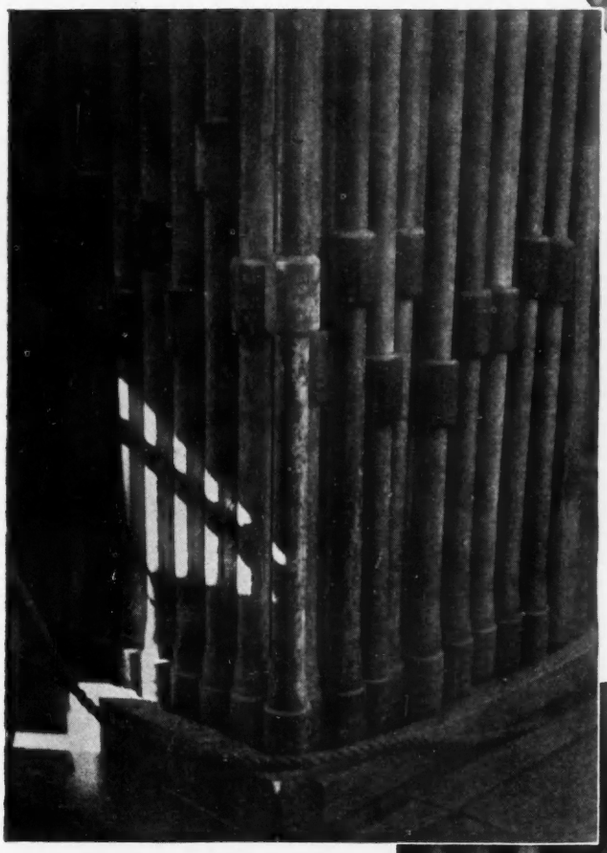
1230 EAST 92ND STREET, CHICAGO, ILLINOIS

Another talked-about drilling job

Gibson No. 1
Belridge Field, Calif.



Unretouched photos



Using All-Rubber Protectors on Upset Tool Joints

Here's a test that's a REAL test for Protectors. The above photo shows 3½" full hole tool joints on 2⅞" drill pipe. The Patterson-Ballagh Protectors were expanded 400% to slip over the tool joints. They have held perfectly month after month under conditions of extreme temperature existing in the Belridge Field in California.

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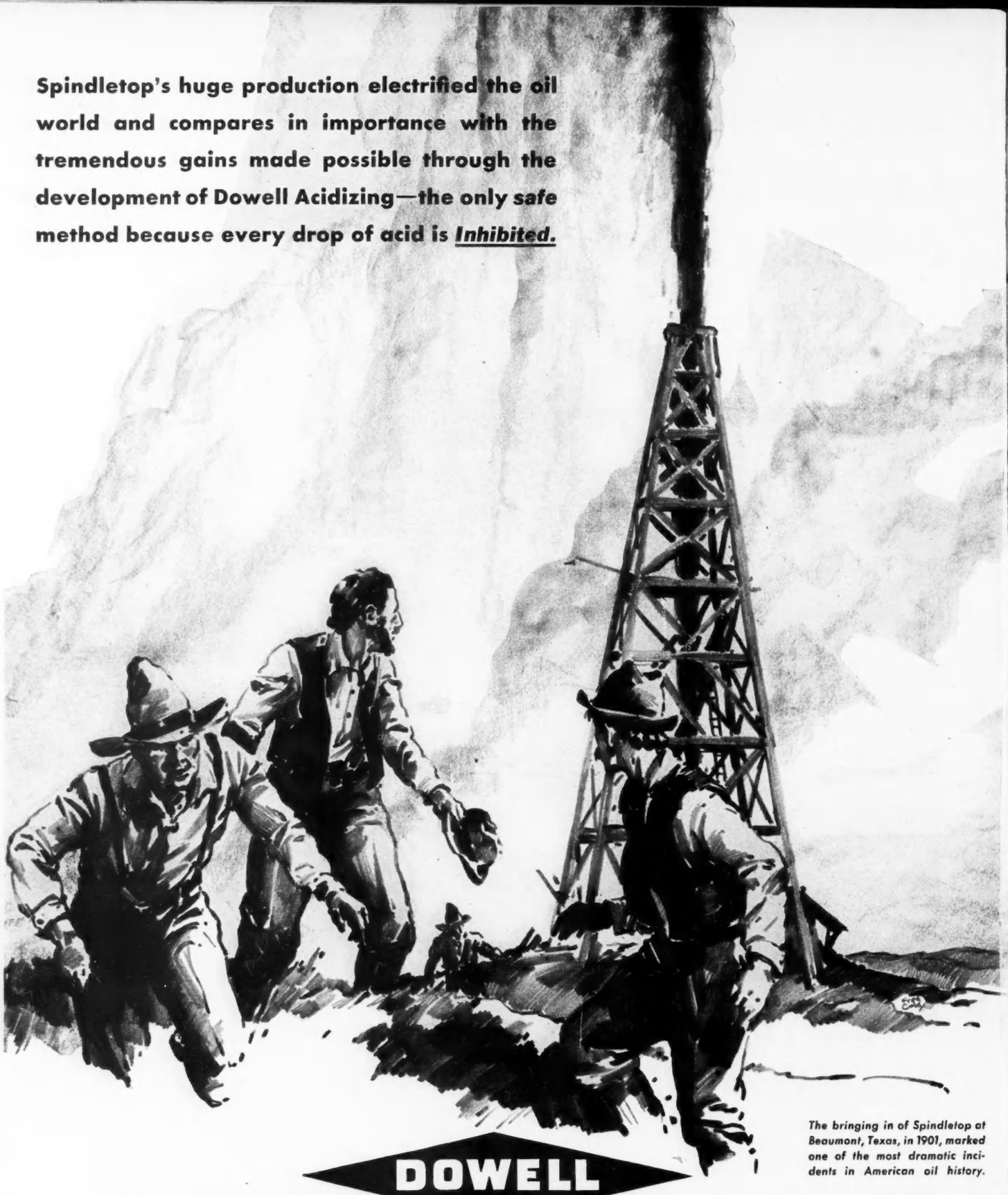

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

AGAIN it is demonstrated that the highly competitive oil industry is most helpfully cooperative. Being that way is what has changed the haphazard methods of only a few years ago to the present highly technical industry—but still keeping the spirit of the pioneer. The point we make is that while the details on Gulf Coast fields within this cover represent many hours of exacting labor and research on the part of members of the editorial staff, without the cooperation of operators (both large and small) such a compilation would have been impossible. Access was had to records that have involved years of compilation at costs which are hard to estimate. That kind of assistance is not the less appreciated by the publisher because it is realized that each man and each organization that opened their records to this compilation did so with the thought that in so giving of their confidential information the general welfare of the industry would be advanced. **Page 85.**

HOW much more oil is to be recovered is interesting to all and of concern to some whose vision extends into the future. The study indicates that so far as the United States is concerned, the oil that is being found from year to year is not sufficient to insure supplies so far in the future as some would like. At that the estimates show that more than 12 billion barrels are yet to be recovered by present methods. And 45 percent of that is in Texas, and 15 percent is in the Gulf Coast region of Texas and Louisiana. **Page 47.**

STILL speaking in billions, Coastal fields are on their second billion and have further to go than they have been. A lot of men with sharp pencils, not to mention the young ladies with the calculating machines, have doped out some interesting figures on what is coming from individual fields and show, as a basis for the calculation, results so far obtained. **Page 80.**

"BY PRESENT known methods of recovery" will take on a much broader meaning when methods have been worked out for drilling through heaving shale. So far it is yet to be accomplished, but a big advance toward the goal has been made by Continental Oil Company, drilling in Calhoun County, and work on the hole still is in progress. The company's engineers have worked out some interesting advances in equipment and methods. **Page 51.**

The Oil Man's Calendar

MAR. 19–21	American Association of Petroleum Geologists, Tulsa, Oklahoma. Society of Petroleum Geophysicists, Tulsa Hotel, Tulsa, Oklahoma.
APR. 9–10	American Petroleum Institute, Division of Production, Southwestern District, Shreveport, Louisiana.
11–13	Petroleum Industry Electrical Association, Tulsa, Oklahoma.
13–17	American Chemical Society, Petroleum Division, Kansas City, Missouri
14	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles, California.
16–18	National Petroleum Association, Cleveland, Ohio.
20–25	Oil Equipment & Engineering Exposition, Houston, Texas.
MAY 5– 8	American Gas Association, Natural Gas Department, Dallas, Texas.
13–15	American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.
13–15	Natural Gasoline Association of America, Tulsa, Oklahoma.
16–23	International Petroleum Exposition and Congress, Tulsa, Oklahoma.
21	Independent Petroleum Association, Tulsa, Oklahoma.
22	National Stripper Well Association, Tulsa, Oklahoma.
JUNE 17–20	American Society of Mechanical Engineers, Dallas, Texas
18–19	Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.
NOV. 9–12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.

BACK in 1932 Conroe was a big factor in intensifying the interest of operators in all parts of the United States in the Gulf Coast. It was hailed as marking a "trend" just above the Coastal Plain, and it was anticipated by many that any number of fields like Conroe would be uncovered along that trend. Conroe quickly was outlined as the largest producing area in the Coast section, and despite restrictions of proration already has surpassed all but a few of the older fields in the region in total recovery. Such a prize was sufficient to encourage widespread search along the trend, and in comparison made some of the subsequent discoveries doubly discouraging. Then came some important discoveries in other parts, and interest in the "Conroe Trend" began to wane. However, it is indicated that the search has been far from exhausted, and the complexities of the conditions encountered leave the possibility that other important accumulations of oil may be found there. **Page 61.**

NEARNESS of crude supplies, abundant cheap fuel and all-important transportation by water to domestic and foreign markets all have contributed to growth of the petroleum refining industry along the Gulf Coast. More and better refining plants are being built continuously, so that the region is taking first rank as a refining center—and the plants are operating nearer to rated capacity than in other parts. **Page 47.**

AND Captain Lucas started it all. His idea that the domes that dot the Gulf Coast should mark oil deposits and his adaptation of rotary drilling resulted in Spindle Top whose flood of oil marked a new era in industrial and social development. And after more than 30 years his discovery still leads all fields in the region in gross recovery and barrels per acre. It will be news of him to some of those old timers who saw in oil development only hit-or-miss and who resented the "intrusion" of the trained engineer, that Captain Lucas was an engineer who engineers delight to honor. **Page 30.**

Dividends Higher

STANDARD GROUP DISBURSES GREATER AMOUNT IN CASH

CASH dividend payments by companies of the Standard Oil group for the first quarter of 1936 are estimated at $19,901,570, compared with $18,122,737 in the corresponding quarter of 1935, according to Carl H. Pforzheimer & Company, of New York.

It was pointed out, however, that in the March quarter, 1935, the Standard Oil Company of New Jersey distributed in the form of a stock dividend 1,399,345 shares of Mission Corporation, which on date of distribution had a market value of approximately $13,206,000 and which is not included in the total for that quarter.

The larger cash payments this year over last year are accounted for by increased dividends by Socony-Vacuum, Standard Oil Company of California, and South Penn Oil Company.

Among leading companies of the group to continue regular dividends this quarter are Standard Oil Company (Indiana), Humble Oil & Refining Company, and Standard Oil Company of Kentucky, all of which currently are paying dividends at the rate of 25 cents quarterly. Standard of Kentucky is the only member of the group to pay less this year than last.

Total payments by companies of the Standard Oil group in 1935 were $170,113,682, the dividends exceeding those of $169,092,529 in 1934 and $128,938,375 in 1933, but being less than the $181,050,895 paid in 1932. The payments previously included $220,739,182 in 1931, a peak of $286,526,728 in 1930, and $269,645,927 in 1929. Prior to the depression, the payments were consistently above $200,000,000 a year back to 1925, when the total aggregated $153,506,099.

The Pforzheimer report also contained information that aggregate net income of the eastern pipe lines of the Standard Oil group for 1935 amounted to $1,523,255 compared with $1,608,171 in 1934.

Standard Oil Company of Kansas reported for 1935 net profit of $131,748, equal to 90 cents a share on the capital stock, compared with $366,780 or $2.50 a share in 1934.

Navarro Oil Company, independent company producing in various Texas fields, reported earnings of $4.97 a share for 1935. Last week the stockholders authorized increase of common stock to 300,000 shares of no par value from 60,000 shares of $25 par value. For each old share held, the stockholders will be given two new shares, plus the right to subscribe for two additional shares.

Houston Oil Company of Texas and Houston Pipe Line Company reported net profit of $846,790 for 1935, after depreciation, depletion, federal taxes, interest, amortization, and other charges. After allowing for annual dividend requirements on six percent preferred stock, that represented 28 cents a share on the 1,105,818 shares of $25 par value common stock, exclusive of 1382 shares in the treasury. In 1934 the company reported net profit of $281,146 and for 1933, it had a net loss of $487,178.

Gulf Resumes Dividends

Gulf Oil Corporation has resumed dividend paying after a lapse of 4½ years, directors having lately authorized a dividend of 25 cents a share, payable April 1 to stockholders of record March 14.

South Penn Oil Company has reported 1935 earnings of $2,321,357, or $2.03 a share, compared with $1,954,918 or $1.71 a share in 1934. The company on February 24 declared a quarterly dividend of 37½ cents a share and an extra of 12½ cents, compared with 40 cents three months ago, 35 cents six months ago, and 30 cents quarterly previously. It was indicated the stock would continue on a $1.50 yearly basis. The new payments will be made March 31 to stockholders of record March 16.

Plymouth Oil Company for 1935 showed profit of $734,976, or 70 cents a share, compared with $670,261 or 64 cents a share in 1934.

Atlantic Refining Company reported profit of $3,970,600 for 1935, or $1.49 a share, compared with $5,512,105 or $2.07 a share in 1934. Sun Oil Company's 1935 earnings were $7,100,239, or $3.45 a share, compared with $6,650,464 or $3.51 a share (on a smaller number of shares) in 1934. Union Oil Company of California had profit in 1935 of $5,038,286, or $1.15 a share, compared with $2,902,733 or 66 cents a share in 1934. Shell Union Oil had profit of $6,812,835 in 1935, compared with loss of $949,111 in 1934.

Any American individual failing to express an honest opinion on matters affecting our national welfare fails in his duty to himself and his country.

★

"The greatest employing power in our society has always been this thing we call savings. The availability of sufficient savings in the past has permitted the expansion of old industries and the creation of new ones, and over a long period of years has resulted in increases in the number of people gainfully employed."—*Lewis W. Douglas*, former Director of the Budget, in an article in Atlantic Monthly.

It does not take much imagination to think of what would have happened if the recent depression had caught industry with no cash reserves.

A man holding or seeking a position of responsibility in government, who would attempt to destroy the savings or surpluses of individuals or industry through special taxation, is not a smart man. He either is lacking in understanding of fundamental laws, or, understanding, he cares not what havoc he creates.

HOT OIL QUIZ

State agents agreed not to make findings public

AUSTIN.

THE Celaya Hot Oil Investigating Committee of the Texas Legislature held hearings at Austin last week inquiring into the work of the State Comptroller and the activities of receivers in cases where oil was confiscated, and during the course of the examination of two men from the comptroller's office the inquiry developed there was a definite understanding between the state's agents in this division and operators handling excess oil to the effect that disclosures resulting from the examination of the operator's books would not be passed on to other parties.

This information resulted from inquiries into the tax payments from fictitious companies made and accepted by the state comptroller.

Representative Sidney Latham asked one of the tax men if he knew that the oil upon which the fictitious companies paid tax was excess oil.

"Absolutely, here is the whole situation," said one of the men. "We know who the owner of the oil is by checking these refineries. They use this gasoline and crude. We know that they cannot operate on oil at $1.15 a barrel, and therefore it is necessary for them to use excess oil, if they continue to operate. It is the only way they can operate."

"Is it agreed that this information is not to be passed on to the railroad commission?" Latham asked.

"No, but it has been the general practice of the comptroller office not to divulge to the general public general information from each of their files. If we go in and check a man's books we are not supposed to give another that information or tell them we found so and so from

this man's books. It has been the general understanding of the comptroller department that we don't do that."

From this statement and others Latham and other members of the committee indicated that in their opinion this relationship between the comptroller and the operator using excess oil was one of the weak points in the general plan to control production from East Texas field.

Records of the comptroller's department brought to the hearing showed many discrepancies.

This was especially true with regard to the reports from purchasers, upon which the law requires the names of the producers from whom the oil was purchased be listed and that the reports be signed by an officer of the purchasing company and attested by a notary.

Several of these reports had been accepted by the comptroller without the list of producers, and in the space provided for that information the words "various," "miscellaneous," or "pipe line overruns" appeared.

Some of the reports were made on the typewriter and carried no signature. Others had the signature, but did not carry a notary's seal or signature.

These reports were presented for identification to the agents who testified. In one instance the agent did not recognize the reports, but subsequently, after the handwriting had been compared with his own, he testified that he had made out all of them as an aid to the producers.

Members of the committee pointed out that the failure to fill out the forms properly subjected the purchaser to penalties as a misdemeanor, and that where false reports had been sworn to, the company official who signed the report would be subject to the felony laws.

Agents from the comptroller's department who testified said that they had accepted the report and the tax money because they felt that they were collecing taxes for the state which would not otherwise be obtained. They expressed the opinion that it would have been useless to file the suits.

By accepting the tax payments the state had waived its rights to either civil or criminal penalties against the parties involved.

Receivers

Investigation of the receivers of confiscated oil and property involved in confiscation suits brought out that in most instances the receivers were attorneys living in Austin.

An interesting fact developed was that since receiver's fees did not come from court's cost, but were in most instances paid by the purchasers of the confiscated oil, the receiver and the attorney for the purchaser determined the fee which was to be paid. In most cases the receiver's fees are fixed in proportion to the value of the property they handle. The smallest fee was $250 and the largest fee for the cases finally disposed of was slightly above $2000.

Another phase of the investigation showed that the purchaser was also the defendant in the confiscation suit, which resulted in the receiver obtaining his fee from the party whose property he was handling, rather than from the court which appointed him.

The committee adopted the procedure of questioning railroad commission agents as to conditions around each property, and then questioning the receiver as to his knowledge of these conditions.

Fugitive Oil

COURT CLARIFIES STATUS AND COMMISSION'S CONTROL

AUSTIN.

A decision handed down last week by the Third Court of Civil Appeals at Austin further clarified the status of fugitive oil and the control of that oil by the Texas Railroad Commission.

Previously, cases where operators sought tenders and were denied those tenders by the railroad commission with brief explanation: "Source not shown," the court had held that this ruling by the commission was arbitrary, and had permitted the operators to run the oil, where it proved to be impossible to determine the exact source from which the oil came.

The court found, however, that the C. C. Morgan case varied from the others, in that Morgan had failed to comply with railroad commission orders requiring him to make reports on the pick-up operations of his reclamation plant.

Because the operator refused to file reports the court expressed the opinion that the commission showed that the oil involved was unlawful oil and within the purview of the statute and the rules of the commission.

Difference in Case

Further explaining the difference between this case and preceding cases, the court said:

"Apparently the trial court took the view and construed our former opinions as holding that where the tender board has rejected an application for a tender, without assigning any reason therefor, such failure constitutes an arbitrary action on its part and entitles the applicant to a tender as a matter of right. Our former opinions, however, cannot be so construed.

"Undoubtedly, in view of the mandatory provisions of the statute, the failure or refusal of the tender board to comply with the plain provisions of the law does constitute arbitrary action. And when an applicant has duly executed and filed his application . . . he has made a prima facie showing of his right to a tender . . . and if, in a hearing thereon on appeal to the District Court no evidence is offered to show the contrary, he is entitled to a permit. That is our construction of the law and is what we have heretofore held. But that is not the case here presented. Mere failure of an agency of the commission to discharge the duties imposed upon it cannot in and of itself grant an applicant who has himself violated the conservation laws and valid rules of the commission, immunity from its penalties, or give to him any right to move his oil if in fact and in law it be unlawful oil as defined by the act in question.

"The effect of the statute, where the applicant makes proper showing before the tender board and it fails to give any reason for its refusal of a permit, is to cast upon the state the burden of showing that the oil involved is unlawful oil.

"Section 1 of H.B. 581 defines unlawful oil as oil . . . produced or transported in violation of any order of the commission . . . Section 19g of the act prohibits the approval or registration by an agent of the commission of a tender for the transportation of any such unlawful oil or unlawful products.

"There were also introduced in evidence upon the trial duly promulgated rules of the commission regulating pick-up stations and reclamation plants. These rules in substance contained:

"1. Plants must be built, constructed and operated in conformity with commission rules.

"2. Operators must make daily and monthly reports on oil handled.

"3. Denying to operators authority to take into possession any unmerchantable oil without first obtaining a permit from the commission.

"4. Requiring the applicant to identify the source of waste oil, and if that cannot be done, and such oil creates a fire hazard, or threatens stream pollution, then that such oil be burned.

"5. Prohibiting the removal of any such captured oil unless its source can be identified.

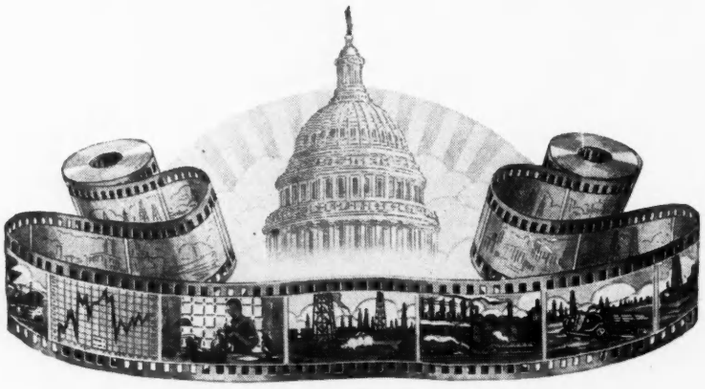
Rules Not Attacked

"The validity of these rules is not attacked. The testimony of the witnesses including appellee, showed that he operated without a permit, that he had not made reports, that he had treated such oil so as to remove foreign substances, that he had transported it through pipe lines to a storage tank. There was also evidence that the oil in storage was of a higher gravity than that which he claims to have placed in said storage tank.

"Under these facts and circumstances it seems clear that the oil falls within the statutory definition of unlawful oil or products, for the sale or removal of which the law itself prohibits the issuance of a tender. It is manifest, therefore, that appellee can acquire no right to sell or transport oil shown to have been unlawful oil, by a mere failure of the agents of the commission to discharge the duties imposed upon them. The injunction was improperly granted.

"The state insists that said oil was shown to have been unlawful oil and it should have been ordered confiscated and sold. We cannot say that the case has been fully developed on this issue, nor determine whether the oil in storage is the same oil as that transported from his reclamation plant. We think it best to reverse the cause for another trial upon the right of the state to confiscate it."

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

INTERESTING developments in the oil industry within the past 10 days included: further gradual improvement of the markets; publication of additional annual financial statements by oil companies showing better results for 1935 than for 1934; action by federal and state governments on gasoline taxes, chain store taxes, and other matters affecting the industry; release of statistics of interesting nature from various sources.

Markets Improve Further

In the latter part of the past week the gasoline markets were steadier than a week before, with milder weather and somewhat improved demand causing a stiffening of prices. Kerosene continued in strong demand, with spring plowing virtually at hand, and tank car prices moved upward another point.

The California market situation has shown some further improvement, higher crude postings having been extended to five of the nine fields that were temporarily left out of the upward price movement of February 26. Only four fields of the state continued, therefore, on the old price schedule.

The price advances for the five fields represented rewards to producers for earnest curtailment efforts, although desired quotas had not been quite attained. The five fields are Playa Del Rey, Santa Fe Springs, Huntington Beach, Signal Hill, and Kern Front. The four fields left with the old prices are Alamitos Heights, Dominguez, Elk Hills, and the Lakeview area of the Midway-Sunset field.

Pacific Coast Outlook Better

Although retail and wholesale gasoline prices were reduced throughout the Pacific Coast region March 3, the subnormal postings are expected to remain in effect only a short time; and it is anticipated that when the prices are advanced, the markets then will be on a firmer footing than formerly. California producers have been curtailing crude oil output with considerable success since the voluntary restriction program was inaugurated about February 1; and it is to be expected that the smaller crude production will cause a strengthening of the markets for refined products, particularly when spring brings an expansion of gasoline consumption.

Rest of Country Also Looks Up

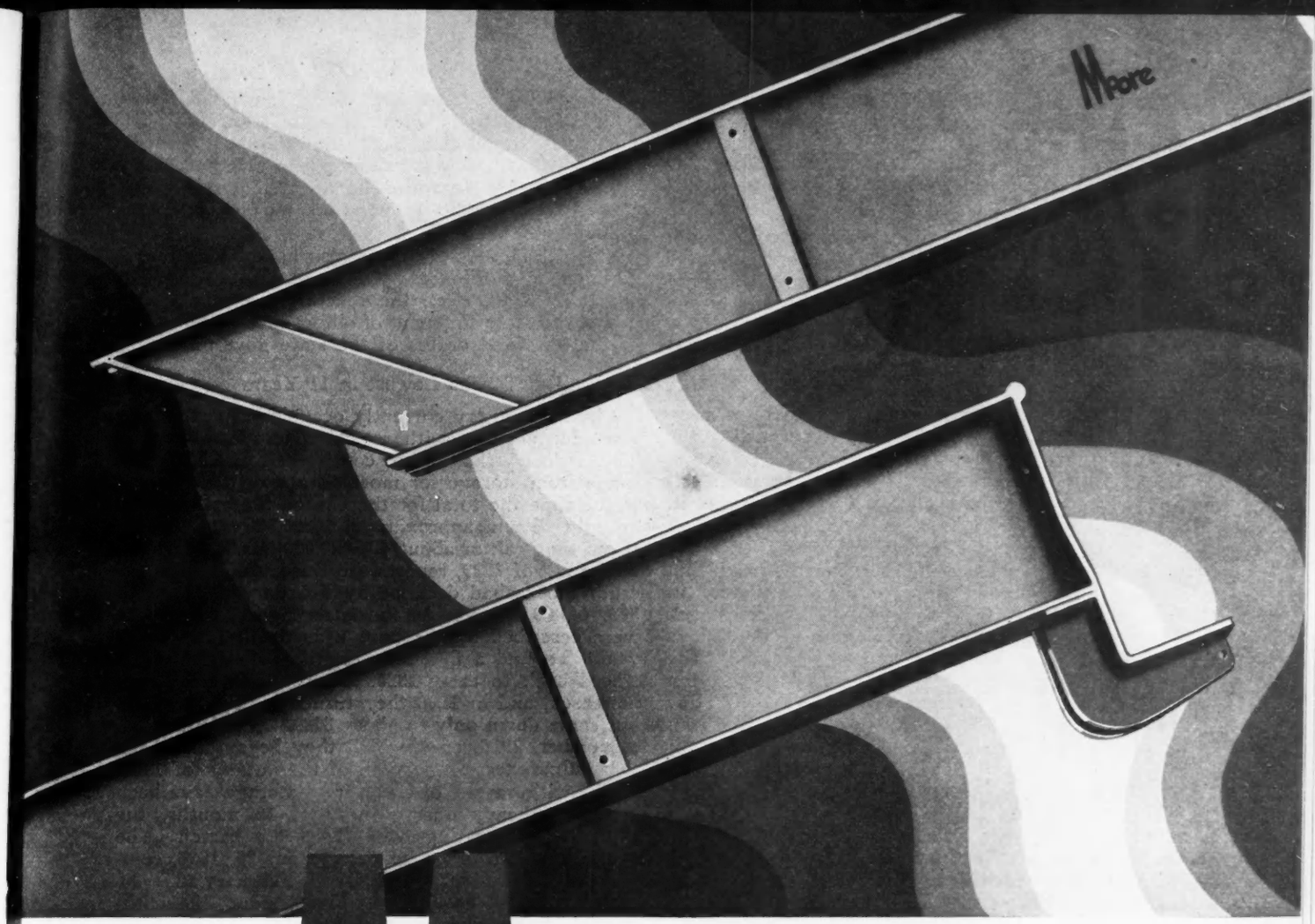
The market prospects are distinctly favorable for the rest of the country as well as for the Pacific Coast territory. The outlook is bright because of impending expansion of demand for both kerosene and gasoline and because of continued success in balancing crude production with the market requirements. Although gasoline prices have been unsteady or sagging in recent weeks, they became firmer last week, and it now appears a distinct possibility that they shortly may resume the upward trend. Kerosene prices have been rising for several weeks, and the market continues strong.

Further Crude Raise Is Hope

Since the markets for the products are steady to strong, with further improvement likely, the crude oil markets similarly are firm. Although it is not expected that Mid-Continent crude prices will advance further immediately, an additional moderate increase of 10 or 15 cents a barrel this spring is generally considered an economic possibility. Such an increase can be achieved successfully, it is hoped, with the benefit of a strong gasoline market. The favorable gasoline prices will be virtually assured, if crude production continues under rigid restraint, for gasoline consumption is confidently expected to reach unprecedented proportions this year.

Gain in Earnings Likely

Profits of oil companies are expected to be substantially higher for 1936 than for 1935, not only because of improved prices but also because of the predicted greater volumes of business. It now appears quite possible that the 1936 earnings will be the best in the history of the industry, with exception of those in



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1929; although this year will have to bring a gain of about 30 percent over last year in order to surpass the results in 1930.

Tax Allowing Reserves Wanted

It appears assured that any legislation by Congress levying taxes on undistributed corporation profits will permit the building up of reserves for use during depressions. Such a provision was favored by the subcommittee of the House ways and means committee last week, while working on a tentative draft of a bill embodying the recent tax proposal of the administration. It is conjectural what may be decided by the full committee and later by the lower house. But it is reported that there is wide approval in Congress of the idea of permitting the accumulation of reserves for use in the lean years. Similarly, it is indicated that the administration will accept the reserves allowance if Congress wants it.

Tax Changes Considered

Tax proposals particularly affecting the petroleum industry have been under consideration lately in Congress and also in legislatures of several states. The treasury department suggested to the Ways and Means Committee that one alternative to the President's plan for taxing undistribued corporation profits would be an increase in the federal gasoline tax from 1 cent to 1½ cents per gallon. Such an increase would increase the revenue $87,000,000 it was estimated. This proposal apparently did not find favor, however, in the committee.

The New York assembly March 10 refused to pass a senate-approved tax bill providing for extension of the state's two emergency taxes of 1 cent a gallon each on gasoline. The assembly voted to amend the bill so as to continue only one of the 1 cent levies. If the senate approves the assembly amendment, the state gasoline tax will be reduced from 4 cents to 3 cents on July 1.

The Virginia legislature was approaching adjournment without action having been taken on its chain store tax bill in the senate. As passed in the house of delegates, the bill called for a graduated tax on chain stores ranging up to $125 per unit, and it exempted service stations where 70 percent of their business was in petroleum products.

Interstate Compact Meeting Held

The oil producing states continue to cooperate in production control efforts. Attending the Interstate Compact Commission meeting at Oklahoma City March 13 there were not only representatives of the states that are members of the commission but also representatives from several non-member states.

Aside from the Interstate Compact activities, moreover, there has been cooperation between states. Colonel Ernest O. Thompson, chairman of the Texas Railroad Commission, went to New Orleans and conferred informally March 6 with Dr. J. A. Shaw, director of the minerals division of Louisiana's department of conservation. They considered the problem of controlling the Rodessa field, flush area that lies partially in Texas although mainly in Louisiana. The conference was said to have been constructive. Subsequently, Governor James Noe of Louisiana sent several agents of the state's tax and conservation departments to the Rodessa area to investigate reports of overproduction. Previously, the conservation department already had several investigators in the field, comparing oil movements by pipe line, tank car, and truck with the state allowables. Dr. Shaw has stated that back allowables rather than excesses above allowables have been reflected in the oil movements. He added, however, that some indications were found of preparations for moving excess production.

Meanwhile, federal agents also have been investigating reports of excess production at Rodessa. Under the Conally Act, the federal government prohibits interstate shipment of oil produced in violation of the laws and orders of the state governments.

Stocks Lowest in 11 Years

The oil industry currently occupies a particularly favorable position with regard to crude oil stocks. The industry has been consistently withdrawing crude from storage for more than six years, during which time the total for the United States has been brought down approximately 125,000,000 barrels. From the peak of about 434,000,000 barrels on hand in the fall of 1929, reports the Bureau of Mines, the crude stocks had declined by February 29, 1936, to 309,444,000 barrels. At the latter figure, the stocks were described by the bureau as the lowest for 11 years. To find a figure lower, the records must be traced back to early 1925. During 1925 the stocks increased, and in 1926 they turned back downward, but came down only to about 314,000,000 barrels, in November, 1926, after which they began the climb that culminated in the peak of the autumn of 1929.

The withdrawals of crude from storage have been especially heavy during the past 12 months, the decrease aggregating over 28,000,000 barrels. The 309,444,000 barrels on hand February 29, 1936, compared with 337,319,000 barrels held February 28, 1935. For the month of February, 1936, alone, the withdrawals from crude storage amounted to 3,637,000 barrels. In the closing week of the month, the decrease was 1,221,000 barrels, of which 701,000 barrels occurred in California.

More Motor Vehicles Tomorrow

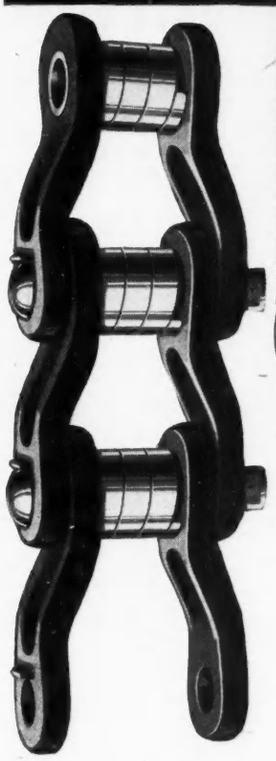
As regards the future demand for petroleum, if you have fears prepare to shed them now. The consumption of motor fuel appears certain to rise on and on for years to come. In the future, a vehicle likely will consume less fuel per mile, but it will travel farther per year; and there will be many more automobiles and trucks on the highways than there are today.

While you now meet 26 automobiles and trucks on a stretch of highway you will be meeting 37 in 1960—if you can survive the traffic until then. And curses, the proportion of trucks will then be greater. The trucks will have increased to 6 whereas today the fourth truck has not quite reached you; while the automobiles whizzing by will have risen to 31 from 22 at present.

All this is just another way of saying: The American Petroleum Institute estimates that by 1960 the number of automobiles and trucks will increase 43 percent over the 26,000,000 registered in 1935, rising to a total of 37,100,000. Passenger vehicles will increase, it is estimated, from 22,400,000 to 31,100,000, and trucks from 3,600,000 to 6,000,000. The 26,000,000 total of 1935 is expected to rise as follows: to 29,200,000 in 1940, to 31,500,000 in 1945, to 33,900,000 in 1950, to 35,450,000 in 1955, and to 37,100,000 in 1960.

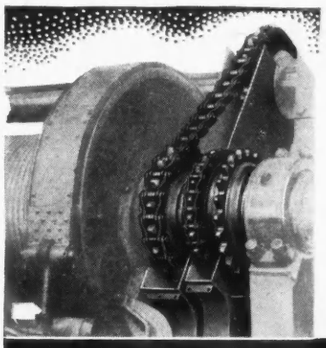
Much will need to be done in the meantime, to promote safety on the highways and streets.

FOR THE GREATEST POSSIBLE EFFICIENCY IN ROTARY RIG DRIVES



IDEAL CUT TOOTH STEEL SPROCKETS

Accurate tooth form and pitch assures uniform loading of both chain and sprocket.



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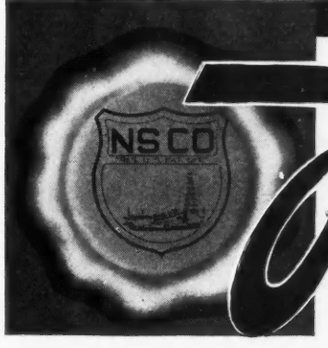
Design and construction . . . heat-treated alloy steels thruout with precision finish of all parts . . . provides exceptional strength and durability.

IDEAL ENCLOSED OIL BATH LUBRICATION

Constant lubrication of chain increases its service and efficiency.

THE NATIONAL SUPPLY COMPANY



National

MEN IN THE INDUSTRY'S NEWS

N. A. CHRISTENSEN, formerly of the California Institute of Technology, has been appointed lecturer in general engineering at the University of Southern California replacing Prof. Gilbert H. Dunstan, who is absent on account of ill health.

R. L. GIBSON, manager of industrial advertising and sales promotion for General Electric Company, accompanied by W. M. Stearns, assistant to the vice president in charge of sales, were en route to Atlanta, Georgia, March 10, after having visited the East Texas field and fields of the Texas Gulf Coast near Houston and Beaumont, where they spent March 8 and 9. Gibson and Stearns attended a sales meeting in Dallas March 7.

L. F. RAINS, president of A. M. Byers Company, and M. J. Czarniecki, vice president of the company, both of Pittsburgh, were making a tour of the Gulf Coast country during the past week and visited in Houston.

MARVIN LEE, consulting geologist of Wichita, Kansas, and technical advisor to the Kansas Corporation Commission, returned to Wichita on Tuesday, March 10, after having spent several days in Washington, D. C., where he discussed allocation of market demand with representatives of the United States Bureau of Mines. After spending a day in Wichita he went to Oklahoma City to attend the meeting of the Oil States Compact Commission.

EDWARD A. KOESTER, formerly geologist for Darby Petroleum Corporation at Wichita, now is Kansas geologist for W. C. McBride, Inc., succeeding "Tass" Williams who was recently named chief geologist in Kansas and Oklahoma for the McBride organization.

CHARLES F. ROESER, president of the Independent Petroleum Association of America, was honor guest of the Oklahoma City chaptr of that organization at a luncheon on Thursday, March 12.

CARL C. HARDIN, former state senator from Stephenville, has announced his candidacy for the Texas Railroad Commission. Hardin was in the legislature for about eight years, and recently has been connected with the state relief setup.

L. B. DENNING, president of the Lone Star Gas Company, was honored as an outstanding civic and industrial leader and for his recent election to the presidency of American Gas Association by members of the Dallas Petroleum Club at a luncheon March 10. T. B. Gregory of Pittsburgh, chairman of the board of Lone Star Gas Corporation, was an honor guest for the occasion.

MRS. KATHERYN B. HARMON, secretary for the chief petroleum engineer of Magnolia Petroleum Company, Dallas, has been transferred to the company's district office at Shreveport.

BLAINE JOHNSTON, superintendent for W. L. Todd, Inc., Dallas contractor and producer, visited Dallas last week after spending several months at Hobbs, N. M. The firm is operating a number of rigs in nearby areas.

J. R. McWILLIAMS, proration engineer for Carter Oil Company since April 1, 1935, has been made manager of production for Standard Oil Company of Louisiana, succeeding W. L. Stratton, whose resignation took effect on March 1. McWilliams is well known to the petroleum industry, having been one of the first petroleum production engineers to be employed by an oil company. For many years he was active in the affairs of the Production Division of the American Petroleum Institute and it was he who fathered the idea of district chapters of that organization. McWilliams was graduated from the University of Michigan in 1919 and for a time served in a field geological party in the Ranger, Texas, district. He served one year in the gasoline department of the old Oklahoma Petroleum Gasoline Company and then was transferred to the production department of that organization. Three years of appraisal work in connection with depletion and depreciation questions for Freeborn Engineering Corporation and one year as chief engineer for Crusader Pipe Line Company at ElDorado, Arkansas, preceded his entry into the production department of Skelly Oil Company. On September 1, 1934, he resigned the position of chief engineer in the production department of Skelly Oil Company to become assistant proration umpire in Oklahoma and on April 1, 1935, he returned to Tulsa as proration engineer for Carter Oil Company. His headquarters in his new position are at Shreveport.

J. R. McWILLIAMS

C. E. "CLIFF" SAVAGE of Tulsa, assistant chief scout for Carter Oil Company, is in Morningside Hospital in Tulsa suffering from a broken leg sustained when he fell on slick paving in Pauls Valley.

GEORGE H. FANCHER, department of petroleum engineering, University of Texas, was the speaker at the March 12 weekly meeting of the Houston Geological Society. He discussed the physical properties of reservoir strata.

JOE B. MONCRIEF, land man for the joint account of Tide Water Oil Company and Seaboard Oil Corporation in the Palestine, Texas, district, has resigned to become associated with his brother W. A. Moncrief, Fort Worth operator.

R. B. PENDER, manager of Port Bolivar Oil & Refining Company, Fort Worth, is recuperating from a serious illness at a hospital in Temple, Texas. The company has two projected deep tests underway in North Texas.

K. A. (GUS) SCHMIDT, district geologist for Tide Water Oil Company, has been transferred from Palestine, Texas, to Shreveport, where the company has established an office in the Giddens-Lane building. Gene Morehead, former scout and land man for Simms Oil Company, and R. J. Forsythe, geologist, have also been assigned to the new district office.

H. M. HUMPHREY, formerly assistant manager of Bell Telephone Company at DuBois, Pennsylvania, has been appointed field salesman with headquarters at Great Bend, Kansas for Union Wire Rope Company.

BRUCE RAMSEY, superintendent of the southern division of Oklahoma Pipe Line Company, has been designated general superintendent succeeding the late R. W. Sparrowhawk. His headquarters will be in Tulsa.

AMOS K. GORDON of Baton Rouge, Louisiana, vice president and treasurer of Standard Oil Company of Louisiana, will retire April 1, ending 44 years continuous service with Standard Oil Company of New Jersey interests. (The parent company was 66 years old in January.)

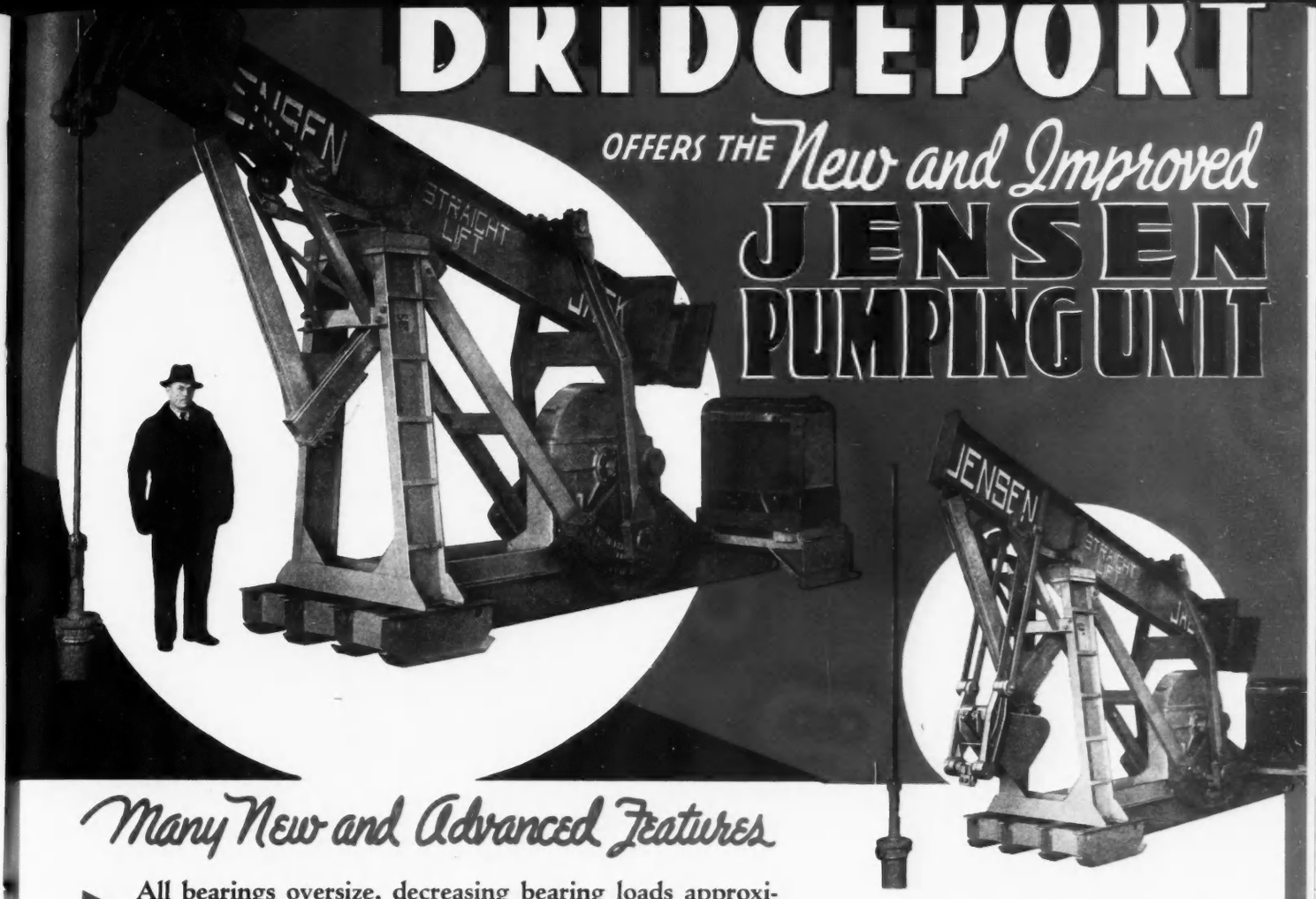
Gordon is the last living of the group of original executives and directors which founded Standard Oil Company of Louisiana in 1909 under leadership of Colonel G. F. Weller, its first president. In 1929 Gordon played an active part in rebuilding and modernizing the Baton Rouge refinery. Three years previous he materially aided the project which brought natural gas to Baton Rouge.

Gordon's first connection with Standard Oil Company of New Jersey interests was made June 30, 1892, as a timekeeper

BRIDGEPORT

OFFERS THE *New and Improved*

JENSEN PUMPING UNIT



Many New and Advanced Features

- All bearings oversize, decreasing bearing loads approximately 50% over previous models—
- Equalizer Type Head designed so that loads are carried on the lower portion of the bearing, permitting adequate lubrication of working parts—
- Oil Sealed Sampson Post Bearings larger, more accessible and even more conservatively rated than those on previous models—
- All friction bearings oil sealed, requiring only occasional lubrication; Crank Pin Bearing more fully enclosed—
- Beam and all structural members heavier and stronger, effecting more rigid design and better balance of the unit throughout—

Three types of heads are available: Jensen Equalizer Straight Lift Type (as illustrated); Wire Line Straight Lift Type; and Link Straight Lift Type.

(Structural Steel Skid Base, to accommodate Pumping Unit and Engine, optional.)

WELL SERVICING SIMPLIFIED

To pull rods or tubing, or to clean out, simply lift the head off the beam and drop it as shown above. This provides ample room for servicing the well.

Ready for Delivery from BRIDGEPORT Stocks

These new and improved Jensen Pumping Units in the 6-C, 18-C and 22-C sizes are now ready for delivery from Bridgeport Stocks. Other sizes will be available in reasonably short time. Also immediate delivery from stock of all A-Model (regular type) Units.

Complete Engineering and Installation Service

Jensen Pumping Units may be purchased from Bridgeport, completely installed, ready to start pumping; or if desired, purchaser may make the installation. In either case the services of factory engineers are available free of cost to the purchaser.

For complete specifications, prices, and all information on Jensen Pumping Units, Engine and Electric Powers,
Telephone
—station-to-station—from anywhere at anytime

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MACHINE COMPANY
MANUFACTURERS DISTRIBUTORS
OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT
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in the old Camden Works, Parkersburg, West Virginia.

April, 1902, saw Gordon moved to the then booming Spindletop as purchasing agent for the George A. Burt refinery, later acquired by Security Oil Company and now property of Magnolia Petroleum Company.

The last 27 years of his active service have been spent in Baton Rouge as senior vice president, chief financial officer, and ranking member of the board. He will continue to live there with Mrs. Gordon and their four sons.

"JIMMY" ELLIS, Oklahoma City district superintendent of production for Carter Oil Company, had charge of the monthly meeting of the Oklahoma City Chapter, Division of Production of the American Petroleum Institute held in the Biltmore Hotel on Thursday evening, March 12. C. P. Parsons, vice president of Halliburton Oil Well Cementing Company, was the principal speaker.

A. FRITCHIE, sales representative for Baroid Sales Company, discussed, "Kansas Drilling Mud Problems" at a meeting of the Kansas Chapter, Division of Production, American Petroleum Institute, held at the Lamar Hotel in Hays, Kansas on Friday, March 13.

DIED:

WALTER FERGUSON, pioneer Oklahoma banker, newspaperman and more recently executive vice president of the Oklahoma-Kansas Division of the Mid-Continent Oil and Gas Association, died March 8, in his hotel room in Washington, D. C. On March 28 he would have been 50 years old. He was born in Sedan, Kansas, where his father owned a weekly newspaper. In 1892 the family moved from Kansas to Watonga, Oklahoma, where the elder Ferguson founded the Watonga Republican. Later the family moved to Guthrie and young Walter had his first real newspaper experience in reporting proceedings for the Olkahoma Constitutional Convention for a Guthrie paper. He was graduated from the University of Oklahoma in 1908 and shortly thereafter acquired ownership of the Cherokee Republican which he and his wife conducted for 11 years. He sold the newsplant and went to Oklahoma City to become advertising manager for the First National Bank after having served one term as state senator from Alfalfa County. In 1928 he resigned from the First National Bank of Oklahoma City to come to Tulsa as a vice president of the Exchange National Bank, a position in which he continued when the National Bank of Tulsa was formed to succeed the Exchange National. On July 29, 1935, he became executive vice president of the Kansas-Oklahoma Division of the Mid-Continent Oil and Gas Association, a position he held until his resignation on January 1, 1936.

B. S. CURTIS, 59 years old, pioneer real estate and oil man for many years in southern Oklahoma, died at his home in Ardmore March 11. Curtis came to Ardmore before Oklahoma was a state.

Lucas Award

A.I.M.E. ESTABLISHES MEMORIAL TO COAST DISCOVERER

New York.—The Board of Directors of American Institute of Mining and Metallurgical Engineers has authorized the appointment of a committee to draw up rules of procedure under which awards can be made from time to time to petroleum engineers for outstanding contributions to the art of finding and producing oil and gas. These awards will be sponsored by the Petroleum Division of the American Institute of Mining and Metallurgical Engineers and are the first recognition by any professional society of outstanding achievement in "oil mining." They will be in the form of either a gold medal, scholarship, or other suitable prize.

About 15 years ago, shortly after his death, admirers of Captain Anthony F. Lucas started a fund to be used to establish a medal as an appropriate memorial in his honor. Through additional subscriptions, augmented by accrued interest, the principal will now yield sufficient income to finance awards at suitable intervals. The phenomenal progress that recent years have seen in the technology of the discovery and development of fields, the drilling of wells, and the bringing of oil to the surface, has brought to the front engineers who deserve recognition from their fellows in the profession.

Captain Lucas was a pioneer in the oil industry, one of the early "wildcatters." As long ago as 1901, he became convinced that Spindle Top, a dome rising about 12 feet above the coastal prairie south of Beaumont, Texas, could be profitably exploited for oil. Most oil men at the time scoffed at the notion. But Captain Lucas went ahead and drilled. In January, 1901, he brought in a well that ran wild for 10 days, yielding more than 100,000 barrels per day at the start. Later, Spindle Top became a great oil field and started a new era in the oil industry.

Captain Lucas is famous not only as the discoverer of Spindle Top but also as a capable mining and petroleum engineer. He became a member of A.I.M.E. in 1895 and for a number of years was a chairman of the Petroleum Committee of the Institute. This committee was the forerunner of the present Petroleum Division of the Institute, which is one of the most important branches of the institute's activities.

The Petroleum Division holds two or three meetings a year, at which time the papers dealing with production engineering problems, engineering research and allied subjects are presented. Each year the institute publishes a volume of its transactions devoted to "Petroleum Development and Technology," which is so entitled. It includes the more important papers presented during the year and the symposium of developments in the oil fields of the world during the preceding year. This information is largely in tabulated form and provides a detailed statistical record of every important oil field. These petroleum volumes—there are now 10 volumes in the "Petroleum Development and Technology" series—constitute a comprehensive record of the trend of the development of all technical matters pertaining to the industry and a continuing up-to-date record of every important oil field in the world.

It is altogether fitting at this time that petroleum engineers should establish this form of recognition for outstanding achievement in petroleum engineering. During the past 10 years, the contribution of engineers to the petroleum industry has been invaluable. The directors of the American Institute of Mining and Metallurgical Engineers feel that this branch of engineering is in its infancy and will continue to grow in importance over a period of many years. A recognition of outstanding merit within the profession is altogether desirable.

John M. Lovejoy, chairman of the Lucas Memorial Fund Committee last year and president of the institute for 1936, has named a special committee consisting of E. DeGolyer, chairman; W. B. Heroy, Henry Krumb, J. M. Lovejoy, H. N. Marsh, Wallace E. Pratt and J. V. W. Reynders. This committee has been instructed by the board of directors to draw up a detailed plan for the establishment of the medal and any other prizes or awards that seem desirable. It is expected that a committee of award will be appointed in time to nominate a candidate for a medal to be presented in February, 1937.

ENGINEERS AT AUSTIN

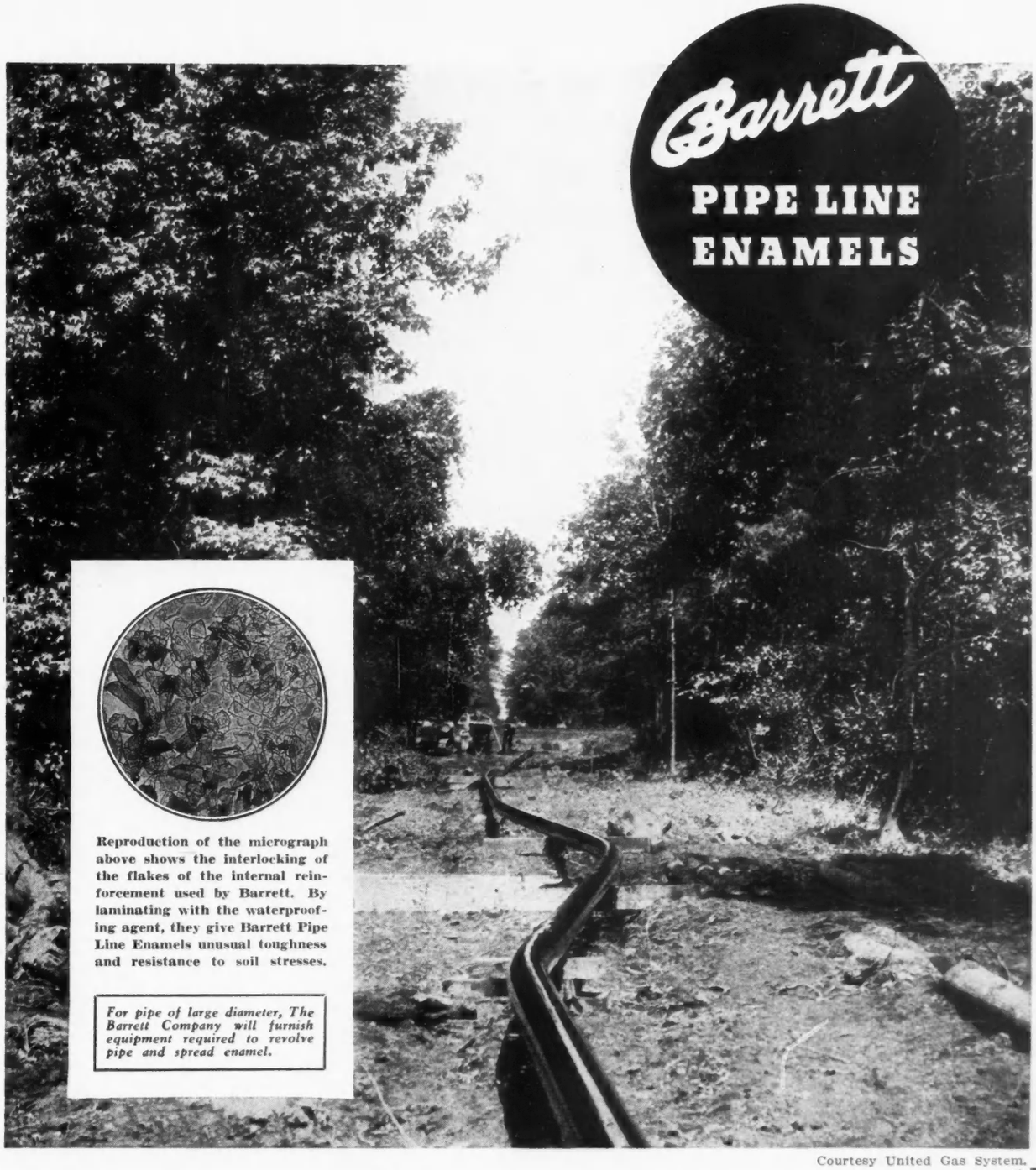
University men hold session March 17

Austin, Texas.—The petroleum engineers of the University of Texas are arranging a spring meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers at Austin, March 17, in connection with the state-wide hearing of the Texas Railroad Commission.

The meeting will be held in the Geology Building of the university, starting at 4 p.m., Tuesday afternoon. Professor L. C. Uren, head of the Department of Petroleum Engineering at the University of California, will deliver the opening address dealing with recent advances in petroleum engineering practice in California. This will be followed by a paper on plans for natural gas conservation presented by Dr. E. A. Stephenson, head of the Department of Petroleum Engineering at the University of Missouri.

A banquet will be held for the visiting engineers in the University Commons at 7 p.m. Harry H. Power, chief petroleum engineer, Gulf Oil Corporation, Tulsa, will discuss petroleum engineering work in Oklahoma.

The final address of the meeting will be by E. DeGolyer, chairman of the board of directors of Amerada Petro-



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Carefully trained Barrett field men will gladly work with you, combining their special knowledge and experience with your familiarity with conditions along the right of way.

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Whatever the type of pipe . . . whether it is a new line or an old one that needs reconditioning . . . engineers may specify Barrett Pipe Line Enamels with complete assurance of maximum protection and lowest possible cost. Barrett's large-volume production of coal-tar pitch for all industries plus its unmatched 82 years of waterproofing experience insure uniformly satisfactory results—long lasting protection that effectively solves corrosion problems along any right-of-way. Wire or write for complete information.

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leum Company and past president of the American Institute of Mining and Metallurgical Engineers. DeGolyer comes from New York to attend the meeting and will discuss the development of methods of prospecting for oil and gas. His noteworthy paper covers the whole field of prospecting from the earliest methods used in the Pennsylvania fields to the modern geophysical methods employed for locating oil today.

Wednesday morning the engineers will attend the commission hearing on the roof of the Austin Hotel. At noon various luncheons are being planned in their honor.

January Gains

REPORT OF BUREAU OF MINES SHOWS ENCOURAGING FACTORS

FAVORABLE factors predominated again when the January, 1936, report on petroleum was issued by the Bureau of Mines. Domestic demand for motor fuel was surprisingly high in view of the generally unfavorable weather experienced during the month, aggregating 32,553,000 barrels. That figure was less than December's demand, 33,734,000 barrels, but it was 16 percent above the 28,062,000-barrel demand in January, 1935. However, the January, 1935, demand was sub-normal because low prices in the latter part of 1934 had caused substantial buying of gasoline that normally would not have occurred until January.

Another favorable factor for January, 1936, was an improved price index for petroleum products. According to the Bureau of Labor Statistics, the index for the month was 54.4, compared with 52.8 in December, 1935, and with 48.8 in January, 1935.

Crude Stocks Decrease

A third advantageous factor revealed by the report was another decrease in crude oil stocks, which have been consistently growing smaller for many months. During January, 1936, crude stocks were drawn upon to the extent of 1,550,000 barrels, the total declining by the end of the month to 313,081,000 barrels. In December, 1935, the crude stocks were reduced 927,000 barrels.

It should be noted, however, in connection with the crude stocks decline for January, that the decrease was due partially to comparatively heavy refinery operations, with increased crude runs causing a material addition to motor fuel stocks. Stocks of finished gasoline rose during the month from 50,647,000 barrels to 55,776,000 barrels; those of unfinished gasoline from 6,046,000 to 6,837,000 barrels; and of natural gasoline from 3,698,000 to 3,936,000 barrels. Total stocks of finished and unfinished gasoline on January 31, 1936, aggregated 62,613,000 barrels, or about 2,000,000 barrels more than the economic objective as of that date, according to the Bureau.

While increases in motor fuel stocks in January exceeded expectatoins, the heavy additions apparently were the result of abnormally high refinery activity rather than of a material decline in refinery shipments.

Fuel oil demand, comparatively high, again influenced the yield of gasoline, which declined from 44 percent in December, 1935, to 42.7 percent in January.

Refinery data of the report were compiled from refineries having an aggregate recorded crude oil capacity of 3,757,000 barrels. These refineries operated during January, 1936, at 74 percent of their capacity, compared with an operating ratio of 73 percent in December.

Crude Output Up Slightly

United States crude oil production in January, 1936, totaled 88,820,000 barrels, according to the report. That represented a daily average of 2,865,200 barrels, which was slightly above the average of December and 13 percent above the average of January, 1935.

The crude oil output was greater in January than in December for all the leading producing states except Texas. In Texas all the major producing districts showed declines from December, and the state averaged only 1,066,400 barrels daily, as compared with 1,094,100 barrels per day in December.

Although California production had been high in December, it was slightly greater in January. Kettleman Hills average daily output dropped below 100,000 barrels, but that decrease was offset by gains in various other Valley fields.

Louisiana production set a new record of 179,700 barrels daily. Rodessa field in that state averaged 29,000 barrels per day.

Supply and Demand of All Oils

From Bureau of Mines January Report on Petroleum

(Thousands of barrels of 42 gallons)

	January, 1936	December, 1935	January, 1935
New Supply:			
Domestic production:			
Crude petroleum	88,820	88,711	78,715
Daily average	2,865	2,862	2,539
Natural gasoline	3,653	3,654	3,286
Benzol[1]	186	192	147
Total production	92,659	92,557	82,148
Daily average	2,989	2,986	2,650
Imports[2]:			
Crude petroleum:			
Receipts in bond	27	211	549
Receipts for domestic use	1,848	3,125	1,462
Refined products:			
Receipts in bond	1,115	1,055	972
Receipts for domestic use	573	663	1,101
Total new supply, all oils	96,222	97,611	86,232
Daily average	3,104	3,149	2,782
Decrease in stocks, all oils	365	3,486	[3]1,281
Demand:			
Total demand	96,587	101,097	85,001
Daily average	3,116	3,261	2,742
Exports:			
Crude petroleum	3,067	4,098	2,369
Refined products	7,095	7,512	6,411
Domestic demand:			
Motor fuel[4]	32,553	33,734	28,062
Kerosene	5,569	5,081	4,299
Gas oil and fuel oil[5]	38,682	39,972	34,589
Lubricants	1,396	1,433	1,557
Wax	89	75	69
Coke	699	624	702
Asphalt	697	831	592
Road oil	141	239	156
Still gas	4,102	4,102	3,808
Miscellaneous	169	205	203
Losses[4,5]	2,328	3,191	2,184
Total domestic demand	86,425	89,487	76,211
Daily average	2,788	2,887	2,459
Stocks:			
Crude petroleum	313,081	314,631	338,174
Natural gasoline	3,936	3,698	4,781
Refined products	224,318	223,371	226,201
Total, all oils	541,335	541,700	568,301
Days' supply	174	166	208

[1]From Coal Division. [2]Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce. [3]Increase. [4]Beginning January, 1936, natural gasoline losses are included in motor fuel demand; the 1935 figures will be placed on a similar basis later. [5]Net transfers of heavy crude in California included in fuel-oil demand.

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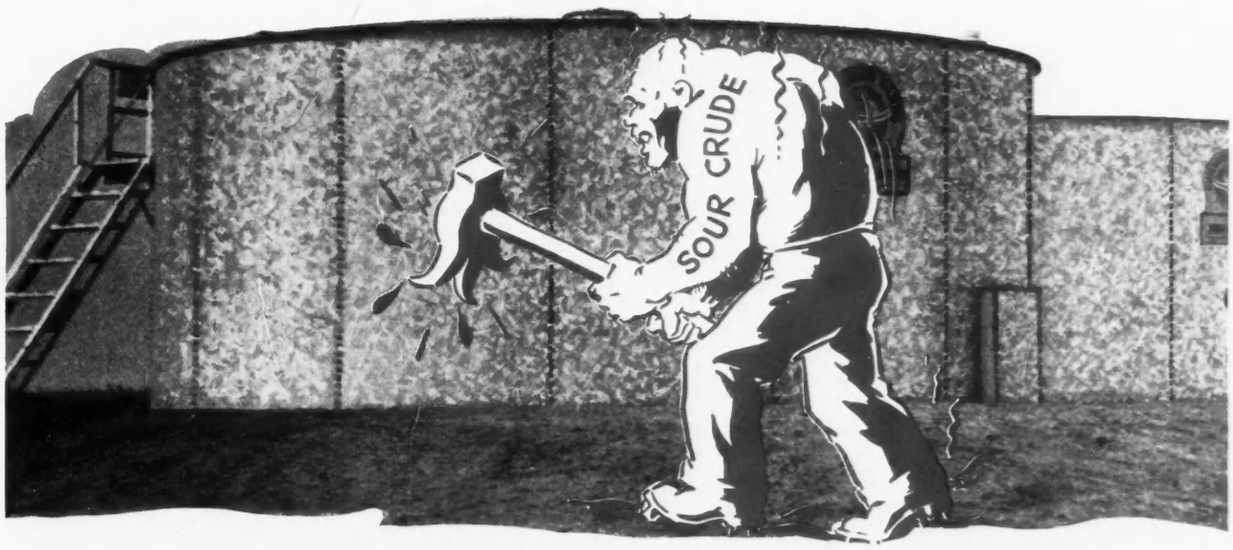

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Special Galvanized
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Maintenance of Communication Lines

OPERATING IN THE OIL FIELDS

By CLARENCE A. ANDERSON, Development Engineer, San Diego, California

THE importance of telephone and telegraph service on lines operated by oil companies, requires that a policy of constant testing and repair be followed in order that efficient service may prevail. Faults must be located and corrected as soon as possible and particularly before they interfere seriously with good service. Continual testing combined with a method of speedy repair form a safeguard around high quality service.

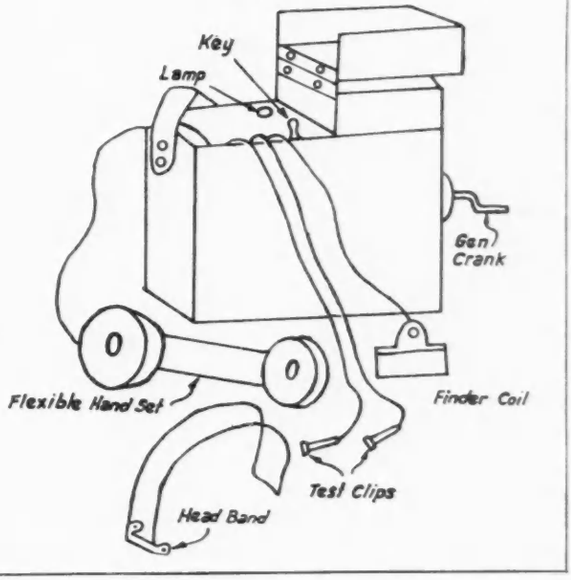
Communication lines are generally first tested with office instruments located at some central point, followed by the use of trouble finding test sets placed in the hands of linemen. The central office instruments afford a means of making a general survey of a group of circuits from which the ones in trouble may be determined. Linemen equipped with a trouble finder test set can make positive locations of trouble (when assigned to circuits), which will result in speedy restoration of service.

It is the purpose of this article to discuss for the benefit of telephone and telegraph maintenance men connected with oil companies, various troubles and the methods used in locating different forms of trouble in the field by actual experience with a test set that embodies all the testing features necessary to combat the different kinds of troubles outlined in this discussion.

Line faults in a general sense fall into four classes namely: "shorts", "grounds", "crosses", and "opens". However, trouble may be positive or intermittent in nature and accordingly will require the method of testing best suited for the particular case of trouble. Before discussing the various methods used in testing, it seems best to explain why the trouble finder device proves effective for ferreting out trouble. The instrument is composed of many of the parts found in the commonly known magneto telephone. There is provided in addition a weather-proofed winding approximately two inches square which is known as the finder coil, or it may also be called a detector coil. This little piece of equipment is a means of directing the lineman to the source of trouble. Since with pipe line companies in present day practice, field men are required to communicate over extremely long lines, the lineman's set must also be provided with good transmission facilities. To this end a hand talking set is supplied, affording the lineman comparative ease in conversing over the line. The hand piece is of light weight and is designed to be folded up and shoved into a compartment of the set when not in use. Furthermore, due to its light weight, the hand piece can be used with a head band if desired, which is important where the user of the set requires the freedom of both hands while testing.

To supply a test current that is audible for testing purposes when used in combination with the finder coil, the magneto or generator in the test set is used. This test current is a sort of "by product" of the regular generator. It is a high peak wave of electrical energy given off the top of the regular ringing wave and might be described in one way as little bolts of lightning traveling at the rate of approximately 180 per minute when the generator crank is normally turned. Due to its velocity, the testing current is transmitted by induction to the finder coil which when in use is clamped over the line wire in the circuit. The user of the test set then simply turns the generator crank and listens in the receiver for the tone. A lineman may get the direction to the trouble by placing the finder coil first on one side and then on the other in making a test. With facilities for making directional tests it will be appreci-

Lineman's trouble finder test set showing working parts.



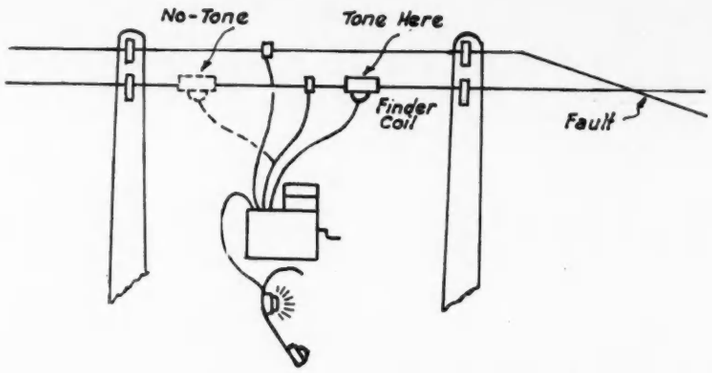


FIGURE 1
Method of testing for a short.

ated that in cases where lines are hard to follow due to off road locations of pipe line circuits, tests can be made at places that can be conveniently reached with a car. It is only a matter of making the location within possibly two handy tests. For example, if a lineman drives up to the line at a road crossing and gets the direction of trouble "ahead" and then when proceeding to the next road crossing the test shows the trouble "behind", he knows that the fault is between those two tests. Besides the directional test for locating trouble other advantages of the set are: a test for "opens" with a lamp and a test for "leakage" with the receiver. These tests are governed by the use of a switching key in the device and will be explained later.

Testing for Shorts

Upon referring to Figure 1, it will be seen that the test set cord clips are attached to a line to be tested for the location of a "short". The lineman may make his first test any place he may choose along the line. After applying the receiver to the ear, the finder coil is placed over the line about eight inches away from the cord clip. The generator crank is turned fairly briskly and the lineman listens for the generator tone. The finder coil is then detached and placed on the other side of the same test clip and the operation repeated. Whichever side the generator tone is heard on, the trouble is in the same direction as the finder coil is from the test clip. As for example we will presume that the lineman in making his first finder coil test gets the trouble tone on the "east" side of the test clip and none on the "west" side; he must proceed "east" a ways and make another test. If however on this second test, the tone indication is the reverse (west and not east), the trouble is between those two points of tests. A trouble finder test set is somewhat like a new car as the more it is used the easier it is to handle. After a little experience, a lineman will be able to make locations in fewer tests by being able to judge from the loudness from the test tone approximately how far away the trouble is from the point of test. They will also be able to detect "cut-outs" in the tone should the circuit be swinging to trouble, etc.

Testing for a "Ground"

The method of making a test for a "ground" is shown in Figure 2. The test cord clips are connected; one to the line in trouble and the other to a dependable "ground". A mistake is sometimes made by connecting to high resistance "grounds" for testing purposes with the result that a poor test is made. It has been found that it pays linemen to take along a regular ground rod to be driven in or a special folding type which can be drilled quickly into the ground with a brace the same as an ordinary bit. A description of a folding ground rod will be given later in the article. The same method of testing for "ground" is followed as for a "short" except that the test set is connected between one side of the circuit in trouble and ground instead of between line and line of a circuit. The importance of using good grounds for testing and for operating purposes will be dealt with under another heading later in the article.

Method of Testing for a "Cross"

Since a "cross" is a case of trouble where one wire of a circuit comes in contact with that of another, it is first necessary to know which wires of a group are at fault. This can be determined at the test board before a lineman is assigned to the job of clearing the trouble. However, a man in the field can locate the wires composing the "cross" by methods shown in Figure 3. This may be done one of two ways; either by wrapping the line cord of the test set around the finder coil several times and which places it in inductive relation to the testing circuit. The

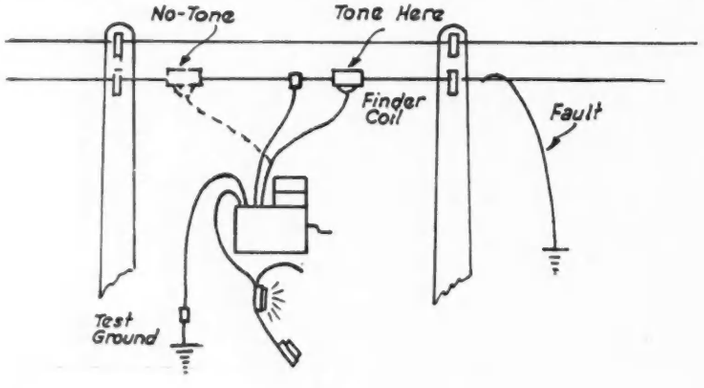


FIGURE 2
Method of testing for a ground.

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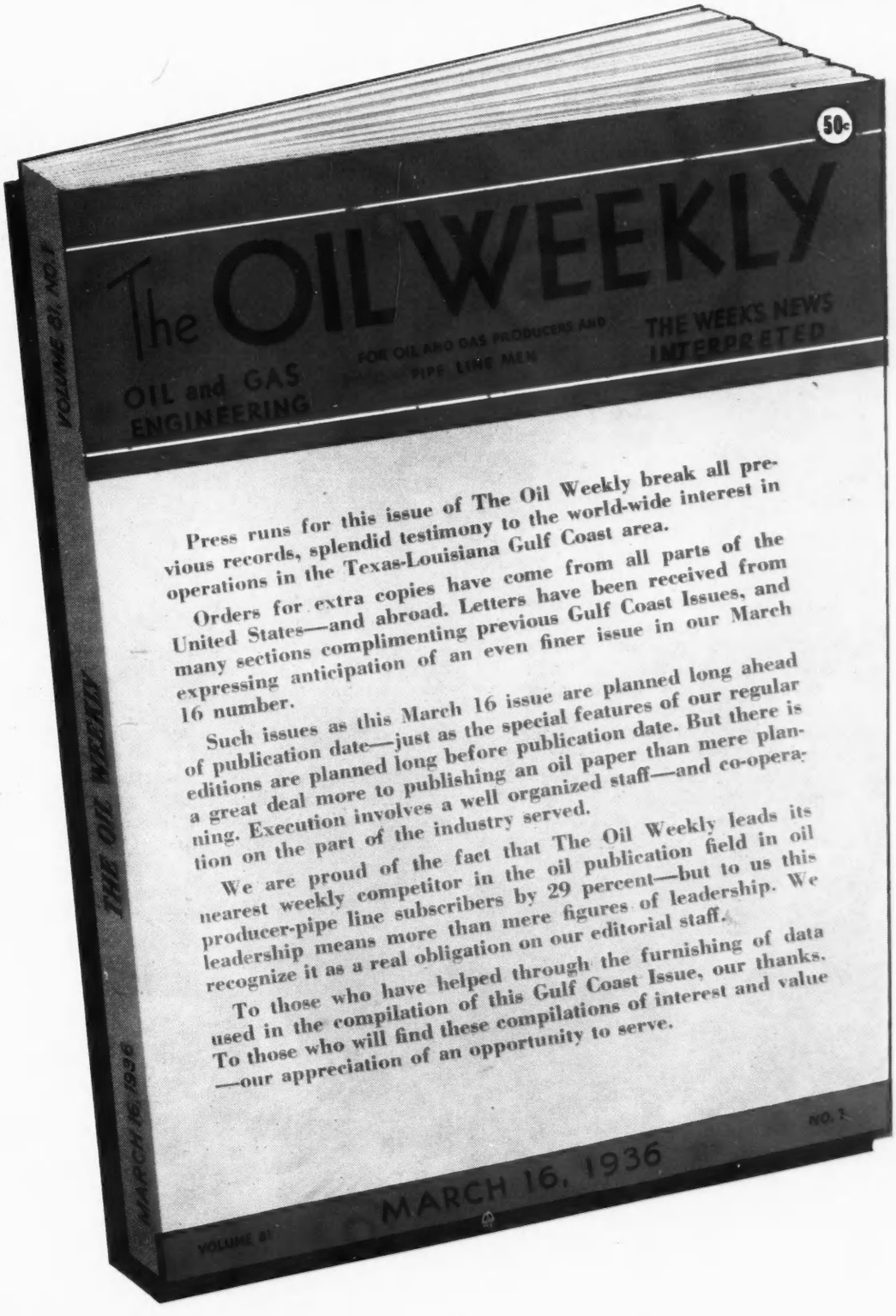

Press runs for this issue of The Oil Weekly break all previous records, splendid testimony to the world-wide interest in operations in the Texas-Louisiana Gulf Coast area.

Orders for extra copies have come from all parts of the United States—and abroad. Letters have been received from many sections complimenting previous Gulf Coast Issues, and expressing anticipation of an even finer issue in our March 16 number.

Such issues as this March 16 issue are planned long ahead of publication date—just as the special features of our regular editions are planned long before publication date. But there is a great deal more to publishing an oil paper than mere planning. Execution involves a well organized staff—and co-operation on the part of the industry served.

We are proud of the fact that The Oil Weekly leads its nearest weekly competitor in the oil publication field in oil producer-pipe line subscribers by 29 percent—but to us this leadership means more than mere figures of leadership. We recognize it as a real obligation on our editorial staff.

To those who have helped through the furnishing of data used in the compilation of this Gulf Coast Issue, our thanks. To those who will find these compilations of interest and value —our appreciation of an opportunity to serve.

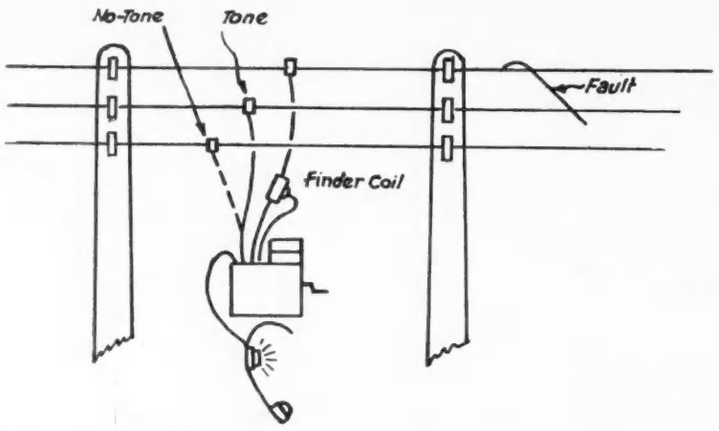

FIGURE 3
Method of testing for a cross.

receiver of the set is used and the "cross" is picked up by switching the test clips from circuit to circuit. A "cross" will be indicated by a test tone in the receiver as the generator crank is turned. The louder the tone the lower the resistance of the cross. The wires having been located which comprise the cross the lineman then proceeds to locate the position of the trouble with the same method used to locate a "short". The other method of picking crossed wires is by the use of the lamp in the test set. The line cords are also in this case switched from line to line in testing and when the wires at fault are located the lamp will glow. The key in the test set in this case is pressed to the left and the generator crank is turned while making the test.

How to Locate "Opens"

"Opens" are as a rule quite easy to locate, however, in cases where a line gets broken and yet remains intact more effort may be required than usual to find the trouble. Figure 4 shows the methods employed in testing for "opens". The lamp in the test set is used under plan "A". To make this test, the lineman has a "short" placed in the circuit at fault; either at the central office or at some point along the line. The line clips of the test set are attached to the circuit to be tested in the usual way and the key in the set is pressed to the left while the generator crank is turned. The lamp will glow on a closed circuit and of course will remain dark on an open. Since the "short" as mentioned is placed on the line for testing purposes, the idea is to start at some point where the lamp will glow on the "short" and the lineman will then proceed to make additional tests along the line until he fails to get the "test short". The "open" then will be found between "glow" and a "no glow" tests on the test set. Another "open" test can also be followed under the plan shown in Figure 4A. In this case, the receiver, if the test set is used, must be clamped to the ear while the generator crank is turned. The key is pressed to the left the same as when using the lamp and the ringing current will be heard distinctly in the receiver when the lineman gets the "test short" but remains silent when the "open" is encountered. This is a very sensitive test and will record even the high resistance "shorts". A less sensitive receiver test for "opens" can be obtained however, by using plan shown in Figure 4B. It will be observed that the line cord is wrapped around the finder coil two or three times, thus providing an induction test. The ringing tone will be heard in the receiver on a closed circuit and there will be no tone when an open circuit is encountered.

Line Leakage and Causes

Line leakage has been the cause for a large number of cases of trouble in telephone and telegraph practice for various reasons. It does not always have to constitute a positive case of trouble to cause decided impairment to service. Most forms of line leakage are the result of moisture which usually proves more noticeable in wet weather. Leakage to earth is frequently caused by the lines coming in contact with moisture laden tree limbs, shrubbery, etc. Also by the wires coming in contact with pins, cross arms, brackets, etc. In wet weather, especially where ground wires are used on poles. It will be recalled that when the early type carbon blocks were used in station protectors carbon dust would sometimes become lodged between the electrodes and form a high resistance circuit to earth, causing much

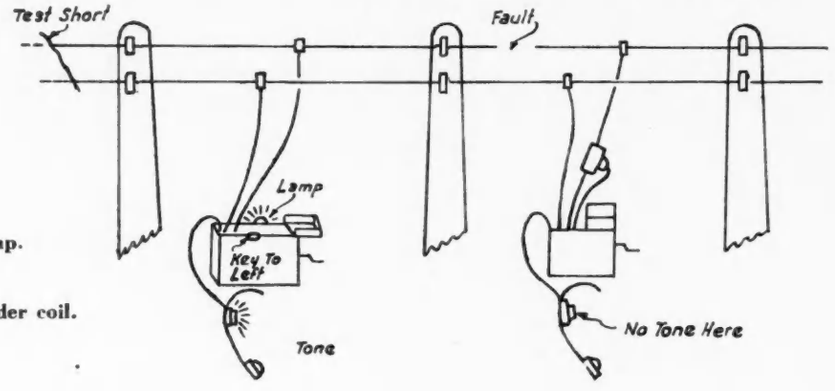

FIGURE 4 A and B

Left: Testing for open with lamp.

Right: Testing for open with finder coil.

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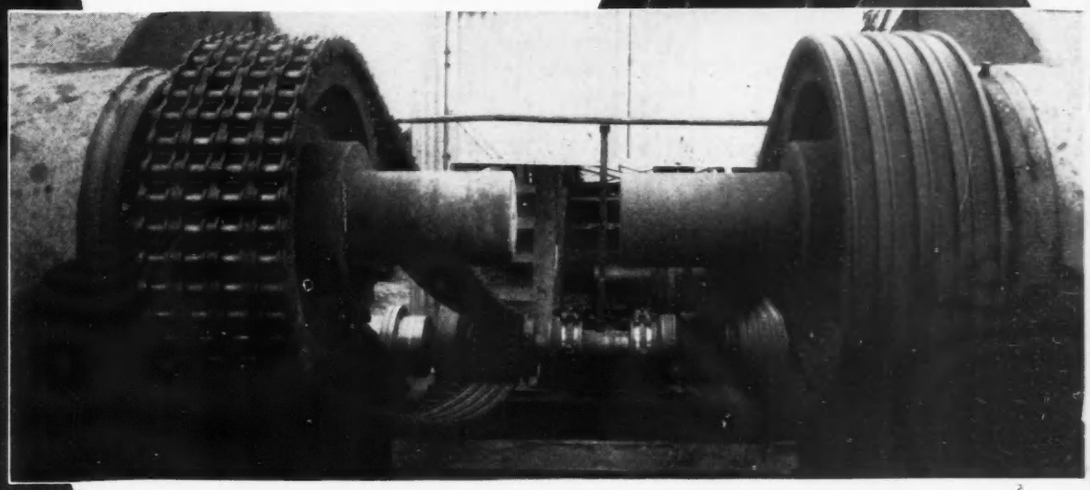

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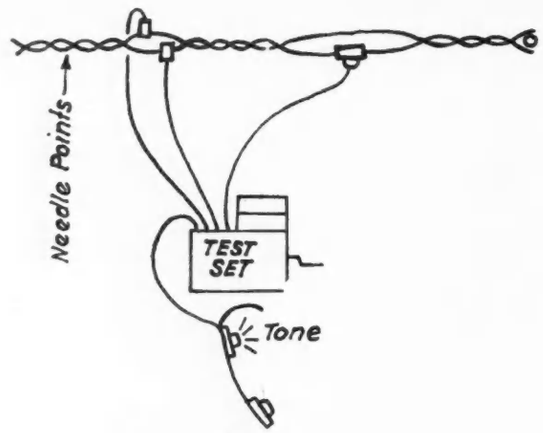

FIGURE 5
Test for trouble on twisted wire

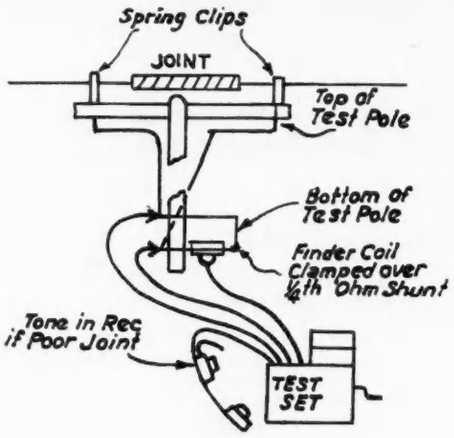

FIGURE 6
Test for poor joint.

annoyance. Leakage from one side of a circuit to another or from circuit to circuit may be caused much the same way as from circuit to earth—due to moisture. Another form of leakage is sometimes found in twisted pairs due to abrasion which may result in the moisture penetrating the protective rubber coating surrounding the conductor. Means for testing for leakage is a necessary part of a test set and linemen are therefore afforded a means of combatting this form of trouble.

Testing for Leakage

There is provided in the test set a feature embracing a leakage detector which is known as the Megger Test. This test covers a range of from zero to approximately one megohm in scope. The lineman connects his test set in the usual way to the circuit to be tested and attaches the receiver to the ear. The key is held operated to the left while the generator crank is turned. On a zero line, the audibility of the tone will be at maximum strength and the lamp will at the same time glow brilliantly. On the other hand if the resistance of the circuit is above 800 ohms, the lamp will not glow but the tone will still remain audible to the lineman. This tone in the receiver will be noticeable up to a resistance of approximately one megohm maximum which is sufficient to cover about all the requirements for field testing. While Figure 5 shows how to make a test for a "short" in twisted pair, this same "set up" can also be used for testing for leakage by leaving the finder coil off and operating the lever key in the set to the left and using the receiver the same as in the Megger test.

Causes for Intermittent Trouble

It sometimes happens that foreign matter, such as pieces of rusty wire, etc., become lodged in the telephone leads and make trouble. This occassionally results in interrupted service causing much annoyance to telephone men. The fact that in many cases the contacts are flimsy, the fault may develop into a "swinging" case of trouble which as a rule is not easily located. In some cases where definite locations were not possible with the usual central testing methods, linemen have been instructed to walk underneath the wires and look for "any thing" that may cause trouble. However, this procedure may not prove successful because such forms of trouble are not easily found this way. Following the advent of the radio when amateurs took to building radio sets, small pieces of fine black enamel magnet wire soon found its way into the telephone leads. In many cases, it was impossible for the linemen to see these pieces of magnet wire only a few feet away, much less seeing them the entire distance from the ground. Different theories were advanced as to how the magnet wire got into the telephone leads and kite flying, birds, wind, etc., were blamed for the trouble. The accepted theory however, was that birds "turning modern" took to building nests of magnet wire and in flying over the telephone lines accidentally dropped the wire into the leads, hence the start of many a bad case of worry. Nevertheless, for the good of the service magnet wire and the like the trouble must be found and removed promptly, consequently facilities for doing this effectively have now been placed into the hands of the lineman.

Testing for Intermittent Trouble

A lineman is often in better position to locate a "flimsy" case of trouble with his test set than office test men are with the office instruments. This is true because the lineman can get closer to the trouble and "ring it in" when the test set is used accordingly. In the fore part of this article mention was made of the high peaked wave supplied by the test set for testing purposes. This test current has proven quite effective in locating flimsy faults and swinging contacts. To find this class of trouble the lineman proceeds the same way as in hunting a "short", "ground" or "cross" but instead of turning the generator crank at the normal rate of speed must sometimes have to ring persistently at high speed until the trouble comes into the receiver. In some cases it may be necessary to turn the generator crank a full minute or possibly make several tests along the line before an obstinate case of trouble is located definitely. Experience has proved, however, that the closer the lineman gets to the trouble the easier it will be to "ring in." This is true because of the fact that the nature of the test current causes the swing-

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ing contacts to temporarily weld together thus affording an opportunity for trouble location.

Testing for High Joints

In telephone and telegraph practice, high joints have frequently caused trouble, especially following storm jobs, etc. High and uncertain joints can be the cause of impairment of service in the form of "cut outs" which may prove exceedingly annoying until the trouble is corrected. It has been deemed advisable in many cases to go over the lead and check suspicious looking joints with the tests as shown in Figure 6. Another plan which has been used with considerable success is for two linemen, each provided with a test set, to cover the lead and test the circuit between them every few miles more or less. The test set is so arranged that the first man to come on the circuit can leave his set connected until his associate signals him, after which they can proceed with what is known as a talking test, occasionally tapping the wires while the talking is in progress. The wiring of the test set is such that it will test "open" to telegraph circuits while in use and consequently will not interfere with service.

The Importance of Proper Grounding

"Grounds" are installed for two purposes: to afford protection against lightning and high potential currents, and for creating a "return" for electrical circuits. Possibly more grounds are used for alternating currents and the like than with direct current. This being the case, a method of testing terminal ground with alternating current should therefore prove more effective than testing methods employing direct current. For this kind of testing, a ground tester is employed which if desired can be mounted inside the lid of the lineman's test set. The arrangement embodies a small accessory which has a testing range from 0 to 1000 ohms (which is more than ample to cover the practical operating limits of terminal grounds). The readings on the resistance dial correspond in value to Wheatstone Bridge readings for non-inductive resistances. The advantages of the A. C. testing method will be appreciated when testing "grounds" for the presence of iron, etc. The main adavantage of this little device is that it is simple to operate and is practically indestructible. A schematic of the "ground tester set-up" is shown in Figure 7.

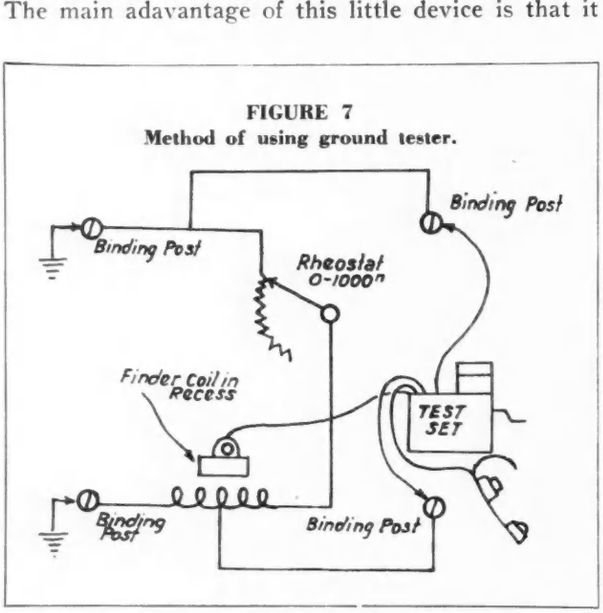


FIGURE 7
Method of using ground tester.

Some Causes for Faulty "Grounds"

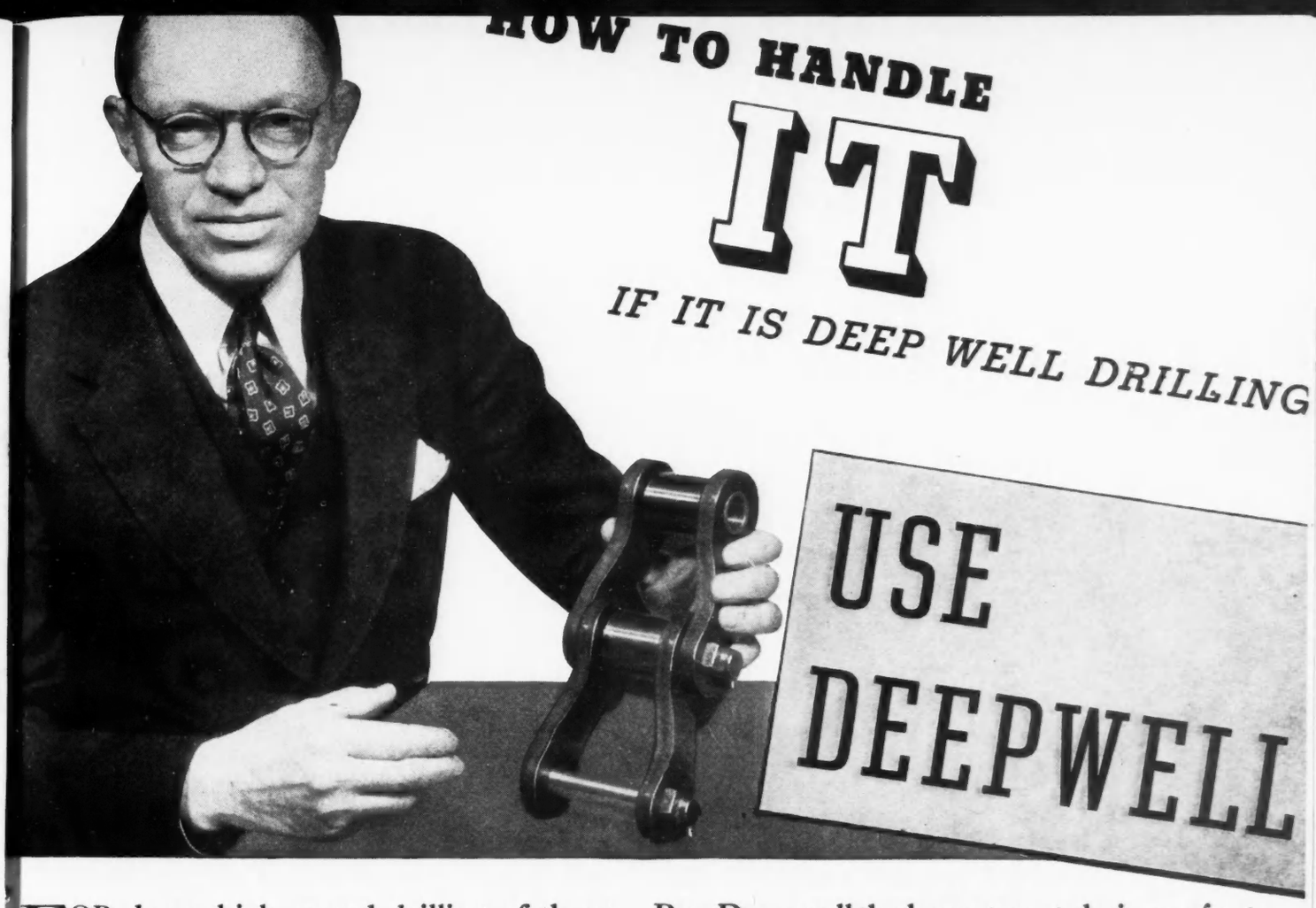
The once popular idea that a "ground" need only be a piece of iron pipe driven a few feet into the earth has long been in the discard. Experience has proved that "grounds" must be installed to guard against defeat of the purposes for which they are intended. Seasonal conditions such as freezes, droughts, rust and chemical reactions of the soil must be reckoned with. It sometimes happens that failures are due to the connection being broken just below the ground line and also occasionally because of poorly soldered joints. When grounds installed for protective measures against lightning and high potential currents fail when needed, untold damage may result to equipment and life may even be endangered. It would therefore seem advisable to have all ground terminals checked periodically for safety reasons. It is a well known fact that when alternating currents encounter iron used in a circuit for grounding purposes the impedance offered due to the iron will reduce the efficiency of the grounding considerably. One advantage of the A. C. testing method is a means of finding iron in the circuit.

Application of the Test Pole

The test pole was designed originally for the purpose of connecting portable telephones to operative circuits in the field. Occasionally engineers and repair men out on inspection trips, etc., desire access to circuits connected with headquarters without entailing the loss of time and inconvenience in climbing poles. The test pole is applicable chiefly to circuits that are not over 28 feet above the ground. It is generally arranged so as to be folded up when not in use and can therefore be conveniently placed in the car along with the portable telephone or test set. When needed the test pole is simply unfolded and attached by means of flexible cords provided for the connection of the test set to the wires. The test pole can also be provided with a special finder coil to be used for the purpose of shooting trouble. A pole of this nature has the finder coil mounted at right angles so that it can be swung from one side and then the other of the test clip in order that the lineman may ascertain the direction of the trouble. The method of testing for the trouble is the same as described under the various headings in this article.

Portable Test "Ground Rod"

A portable test ground rod is designed for the convenience of linemen in checking service grounds. This arrangement consists of two lengths of half inch copper weld rod which when joined together make an overall length of approximately five and one half feet. On one end of the first length of rod is welded a five eighths inch twist drill which can be obtained at practically every first class hardware store. When the rods are joined together an auger brace is used to drill it into the ground deep enough to encounter moist soil. In this connection it should be mentioned that the top rod will have to be arranged to fit the auger brace. After the rod is driven into the ground the desired length for testing purposes, the testing apparatus is connected to same by means of the test clip.



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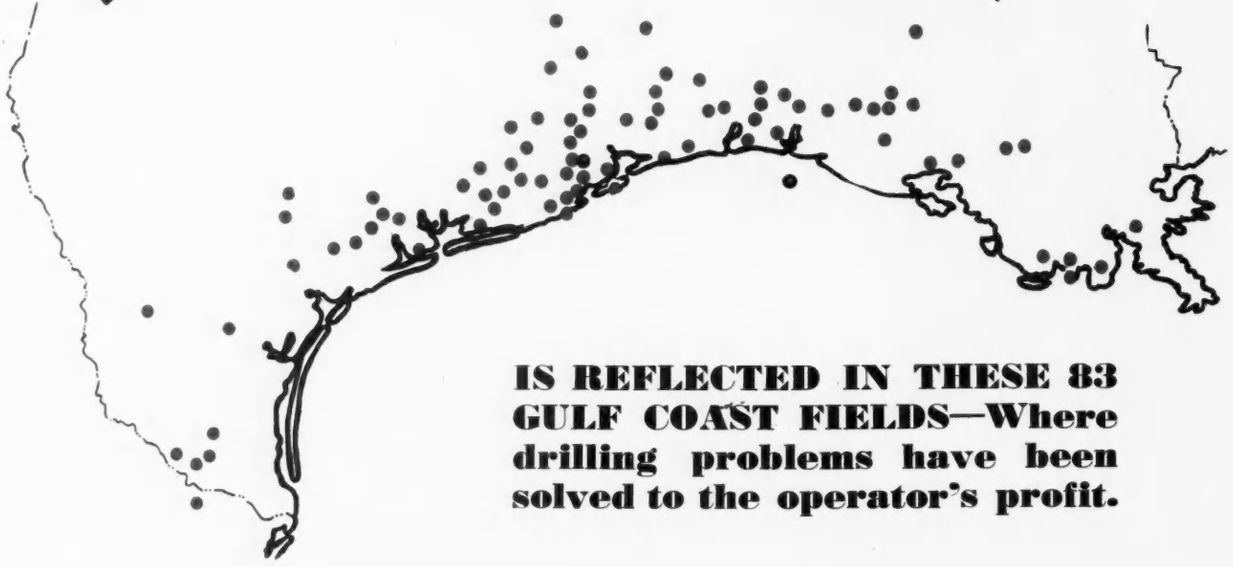

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Port Neches
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Rattlesnake Mound
Sam Fordyce
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Sinton
South Houston
Spindle Top
Stratton Ridge
Tomball
Trinity
West Columbia

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Reynosa

LOUISIANA—
Bayou Mallet
Black Bayou
Bosco
Caillou Island
Cameron Meadows
Cheneyville
Darrow
Four Isle
Gueydan
Hackberry
Iowa
Jefferson Island Dome
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Engineering and Development

March 16, 1936

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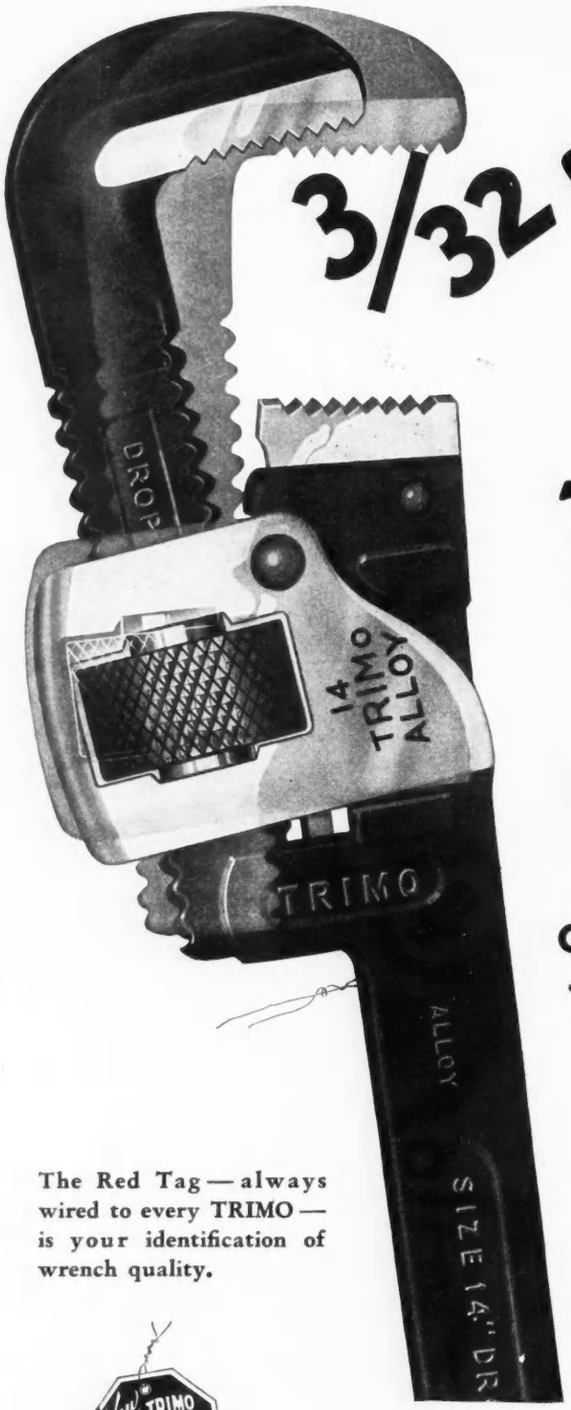

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ANOTHER LOOK AT

Texas-Louisiana Gulf Coast Oil Reserves

AS OF JANUARY 1, 1936

LAST year a committee of the American Petroleum Institute made a study of the oil reserves of the United States in the light of information then existing, and a few weeks ago the results of this survey were published.

This writer was a member of this committee and collaborated in the preparation of the report.

This study indicated, that as of January 1, 1935, the proven oil reserves of the United States included 12,177,000,000 barrels, and of this amount the reserves in Texas represented 5,500,000,000 barrels, or 45 percent.

These figures cover the proven reserves of oil, that is oil definitely in sight, and that will be recovered by present production methods during the life of the fields in which these reserves exist.

In an earlier study of this same subject, in which this writer likewise participated, also under the auspices of the American Petroleum Institute, in 1925, the proven reserves at that time were estimated at 5,000,000,000 barrels.

It is interesting to note that in the interval from 1925 to 1935, an eleven-year period, oil actually in sight in the United States has been increased approximately 7,000,000,000 barrels, notwithstanding the total of approximately 9,687,737,000 barrels, produced and consumed in this interval.

By
ALEXANDER DEUSSEN,
Consulting Geologist,
Houston, Texas

Since January 1, 1935, the date of the figures in the American Petroleum Institute report, additional discoveries have been made in the United States, and on the basis of these discoveries the total proven oil reserve of the United States, as of January 1, 1936, is now placed at 12,992,000,000 barrels, as against the figure of 12,177,000,000 barrels a year previous.

In other words, it is estimated that the discoveries during the year 1935 have added something like 820,000,000 barrels of oil to the proven reserves of the United States.

Of this amount it is estimated that the reserves of the Texas-Louisiana Gulf Coast, as of January 1, 1936, is the sum of approximately 2,032,000,000 barrels, or 15.6 percent of the nation's reserves.

It is interesting to note that this Gulf Coast oil has been discovered and proven by the drill from an area, which prior to 1901, the year of the Spindletop discovery, did not figure in the oil producing area of the United States.

It should likewise be pointed out that the figure now given for the oil reserves of the Texas-Louisiana Gulf Coast is limited to that portion of the Coast, lying east of the west boundaries of Matagorda, Wharton and Colorado Counties, and west of Mississippi River.

That portion of the Coast area lying west of the area above defined includes the oil fields of Southwest Texas, and the reserves of these fields are excluded from the reserve figures herein given.

In a paper which this writer published in THE OIL WEEKLY July 16, 1934, the Southwest Texas area of the Gulf Coast was included.

During the year 1935 the most important discovery in the Texas-Louisiana Gulf Coast from the standpoint of addition to the net oil reserves was the Anahuac field, Chambers County, discovered March 4, 1935, which added approximately 300,000,000 barrels of new oil to Gulf Coast reserves.

Other discoveries in 1935 likewise representing net additions to the reserves of the Gulf Coast are set forth in the accompanying table.

With regard to the reserves of the fields listed in

Texas-Louisiana Gulf Coast Discoveries in 1935, with additions to Gulf Coast Reserves

NAME OF FIELD	Date of Discovery	Estimated Reserves Barrels
English Bayou	2- 8-35	3,000,000
Katy*	2-15-35	No estimate
Bayou St. Denis (La Fitte)	5-16-35	20,000,000
Pickett Ridge	6- 4-35	2,000,000
Shepards Mott	7- 7-35	1,000,000
South Houston	7-13-35	5,000,000
Hardin	7-23-35	1,000,000
Tepetate	8- 2-35	10,000,000
Garden Island	9-11-35	3,000,000
St. Martinsville	11- 4-35	2,000,000
Cheneyville	11-21-35	10,000,000
Turtle Bay	12- 4-35	10,000,000
Jeanerette	12-23-35	6,000,000
Big Lake, Cameron Parish*	12-24-35	No estimate
		73,000,000

*Gas only thus far.

the table, the development has not reached the stage where a fairly accurate estimate of the oil reserves can be made, as the productive area has not been defined by drilling, and the information is insufficient on which to base a satisfactory estimate. The figures given are approximate and are the best that can be given in the light of present information, and are subject to considerable revision in the future. It is probable that for most of the new areas the figures are too low.

Aside from Anahuac, the other discoveries represent 73,000,000 barrels of oil added to the reserves in 1935, (total with Anahuac included is 373,000,000 barrels), of which 19,000,000 barrels is represented by fields other than Anahuac in Texas, and 54,000,000 barrels by fields in Louisiana.

The most important of the Louisiana fields, discovered during 1935, was Bayou St. Denis (La Fitte) in Jefferson Parish, which added 20,000,000 barrels and Tepetate in Acadia Parish, which added 10,000,000 barrels. Anahuac of course is in the category of a major discovery, and likewise represents another important mile post in Gulf Coast history.

It is larger in oil reserve and extent of acreage than any oil field we were accustomed to in the Coast prior to the discovery of Conroe.

On the basis of the present outlook it appears that Anahuac will rank second amongst Gulf Coast fields, Conroe standing first.

Likewise interesting as compared to Conroe is the depth of the Anahuac production, approximately 7000 feet, and the deepest known large reserve of the Gulf Coast. Prior to Anahuac the Conroe reserve, with a depth of 5000 feet ranked first as regards depth compared to amount, being now succeeded by Anahuac from the standpoint of depth.

Significant likewise is the important new oil producing horizon brought into prominence with the Anahuac discovery. This is the Frio sand, heretofore considered an unimportant producing horizon.

The figures above given on oil reserves do not include oil from fields yet to be discovered in the Texas Gulf Coast.

The amount of oil that will come from these yet to be discovered fields of course can not be estimated, but it is safe to conclude that numerous oil fields, and large amounts of oil, not now in the picture, yet await discovery in the Texas-Louisiana Gulf Coast.

Geologic History

The tectonics and geologic history of the Gulf Coast is extremely favorable for the occurrence of an indefinite number of structures in which oil may have accumulated. The geologic section contains a great number of oil-bearing horizons at depths to which, in the light of present information, it will be possible to drill.

Not only new structures and new localities will contribute additions to the oil reserves of the Texas-Louisiana Gulf Coast in the future, but likewise deeper producing sands in the present fields will unquestionably yield large additional amounts of oil.

With the discovery of such important fields as Conroe and Anahuac during the past few years the tendency has been on the part of the Gulf Coast operator to search for new fields rather than to explore for deeper horizons in the older fields.

The advent of geophysics uncovered, of course, a large number of new structures which tempted the operator to follow this course rather than to probe deeper in the older fields.

Geophysical structures, however, are now becoming more difficult to find because much of the area of the Gulf Coast has been gone over in some sort of fashion by geophysical instruments and the more pronounced and the most readily found types of these structures have been discovered.

Some considerable number of them have been drilled. Others still remain to be drilled.

The more indifferent and less pronounced types of geophysical structure are the prospects which must be drilled in the future, but it often happens that some of these more indifferent types of structure are the ones that may yield important new large reserves of oil.

However, improvement in geophysical methods in the future may likewise uncover additional structures which present methods so far have failed to detect.

The Texas-Louisiana Gulf Coast still represents the greatest potential oil area of the United States, and it is to this area that the operating companies will be forced to look for much of the new oil which they must depend on to supply the United States during the coming decades.

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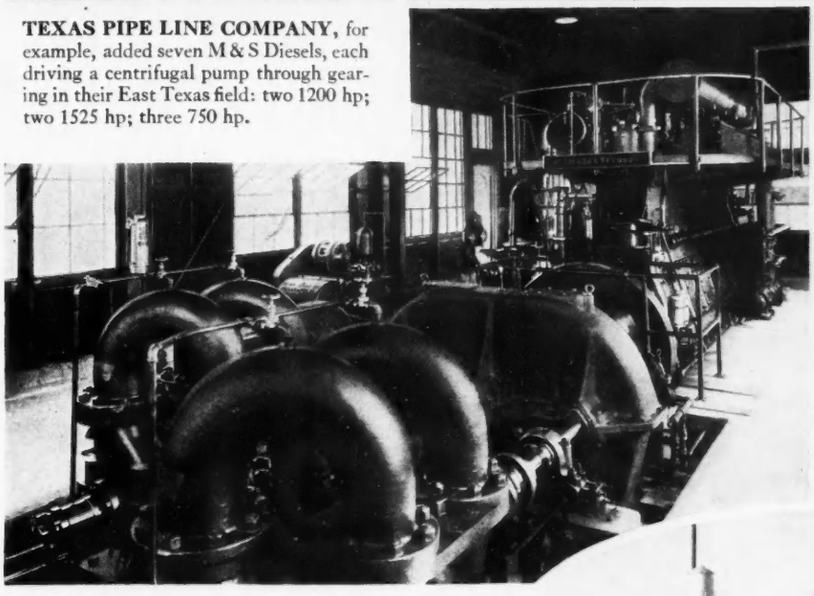
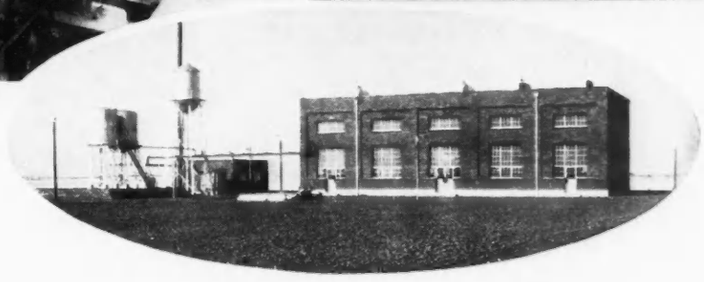
TEXAS PIPE LINE COMPANY, for example, added seven M & S Diesels, each driving a centrifugal pump through gearing in their East Texas field: two 1200 hp; two 1525 hp; three 750 hp.



750 hp, 6-cylinder M & S Diesel gear-connected to large centrifugal oil pump at the Texas Empire Pipe Line Station.



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ATLAS

EXPLOSIVES

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Heaving Shale Drilling Advanced

METHODS DEVISED BY CONTINENTAL OIL COMPANY ARE GIVING GOOD RESULTS

By BRAD MILLS, Associate Editor

RECENT progress by Continental Oil Company in its heaving-shale drilling operations in Calhoun and Matagorda Counties, Texas, has attracted wide interest in the industry. The company's Moody 2-A wildcat test, near Seadrift, Calhoun County, located within 150 feet of a well previously lost by heaving, reached a total depth of 9085 feet after encountering heaving shale at 6150 feet. Sixteen hundred feet of heaving shale was penetrated and 8⅝-inch casing set and cemented at 8020 feet in a period of only ten days. The hole was then drilled to 9085 feet, where 5¾-inch pipe was set and cemented. About 2000 feet of heaving shale was penetrated during the two brief drilling periods. This brought into action many unique drilling practices developed by the company.

Early in its heaving-shale drilling program the company inaugurated an intensive investigation of the heaving-shale problem. Practices and experience of other operators were analyzed. The causes and possible remedies for heaving were sought partly through this investigation and partly through first-hand experience. The causes for heaving were found to be:

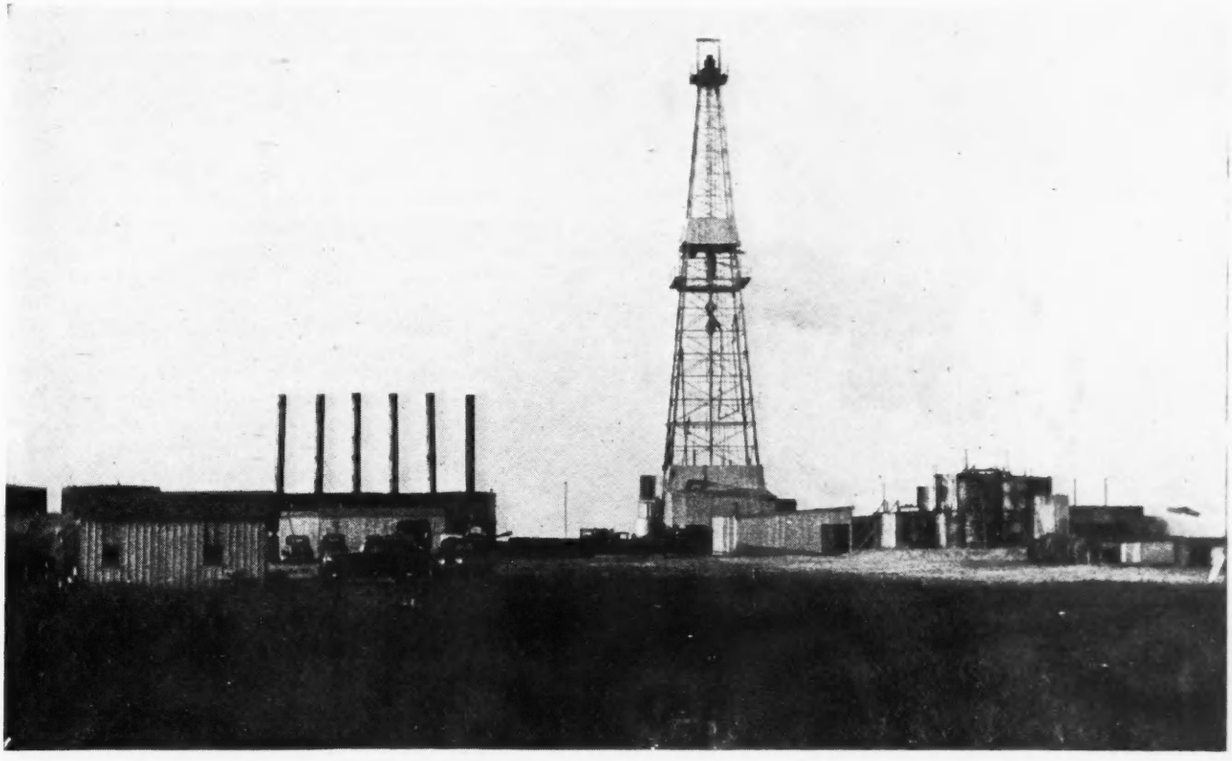
(1) Disintegration and swelling of shale due to hydration by water from drilling muds.

(2) Aggravation of caving and heaving by inadequate or faulty mechanical methods and equipment.

(3) Action of gas blowing shale into the hole.

(4) Movement of shale caused by weight of overlying formations.

A study of many failures indicated that the trouble began with sloughing and caving, growing progres-



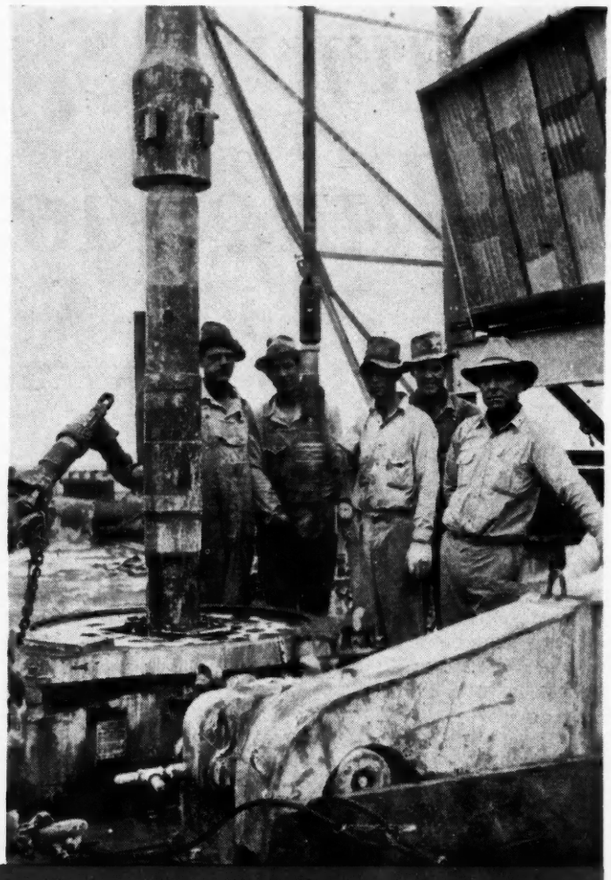
Continental Oil Company's Moody 2-A. Tanks to the right are used as mud and chemical tanks, while the building in the center foreground is the storage room for mud materials.

sively worse until the shale movements reached the magnitude of heaving. The forces of these movements became practically irresistible, bending and breaking drill pipe and casing, and sometimes filling thousands of feet of hole with shale. Once started, these movements could not be controlled. Therefore, Continental Oil Company's objective was to prevent any initial heaving.

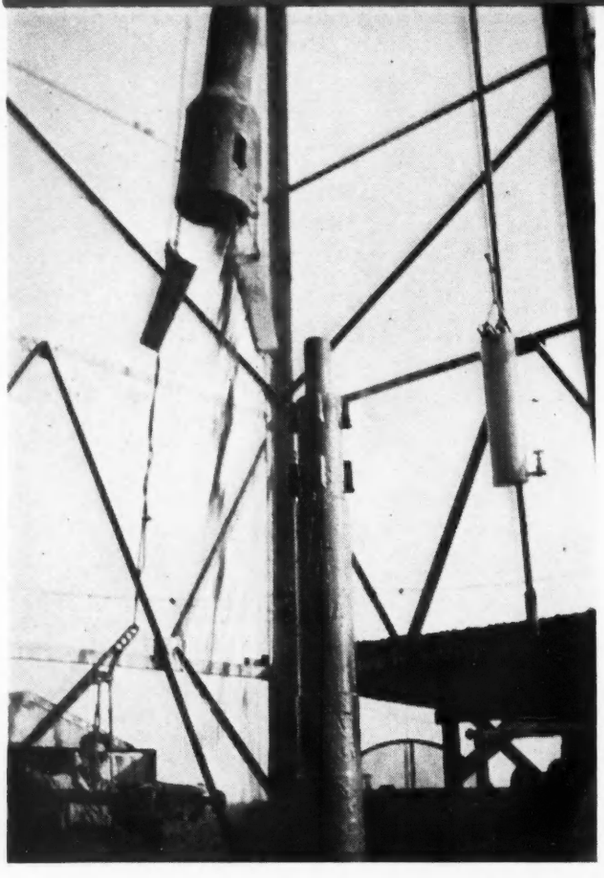
Prevent Hydration

Having recognized the causes for heaving, the first move was to prevent hydration of the shale. This was done with sodium silicate drilling muds. It has long been known that sodium silicate reacts with rock-forming materials, such as calcium magnesium and aluminum, to seal the pores of the rocks and thus render them waterproof. Sodium silicate in a drilling mud acts in this way, thus protecting shale against hydration. Its protective action is practically instantaneous.

As early as 1918, application was made for United States patent on the use of sodium silicate in drilling muds to prevent caving and to exclude water from drilling wells (see U. S. Patent 1,421,706, assigned to the public). The practice also was set forth in United States Bureau of Mines Bulletin 233 in 1925. However, not until the spring of 1935 was sodium silicate used for heaving-shale drilling in the Gulf Coast region, when both The Texas Company and



The hammer stabbing joint as it appears made up is shown to the right. The drilling bit is being held by members of the crew.



The hammer stabbing joint being broken out. The two wedges in the female end have been knocked out to release it.

Continental Oil Company used silicate muds. This application of chemistry to drilling fluids marks an advance well beyond that of previous efforts to handle heaving shale. Ordinary drilling muds, composed of colloidal matter in water, wall the hole by filter action. The walling material is a filter cake. The water entering the shale causes its hydration and disintegration, with consequent caving and heaving. With sodium silicate muds, the walling is accomplished by chemical precipitation which seals the shale instantly against penetration by water.

This quick chemical action permits rapid drilling without having to wait for the slow walling action of the ordinary muds.

Physical and chemical control of the silicate mud was maintained at all times by the mud crew under the supervision of a chemist. During the early shale operations, muds weighing from 9 to 11 pounds per gallon were used, but better results were obtained with weights of from 12 to 13 pounds. Where gas was encountered, an effort was made to maintain weights as high as 14.5 pounds. The viscosities of these muds generally were held at from 30 to 40 seconds, as measured with the Marsh funnel viscosimeter—500 c.c. in and 500 c.c. out.

Keep Pipe in Hole

From a mechanical point of view, the running of drill pipe in and out of the hole causes swabbing

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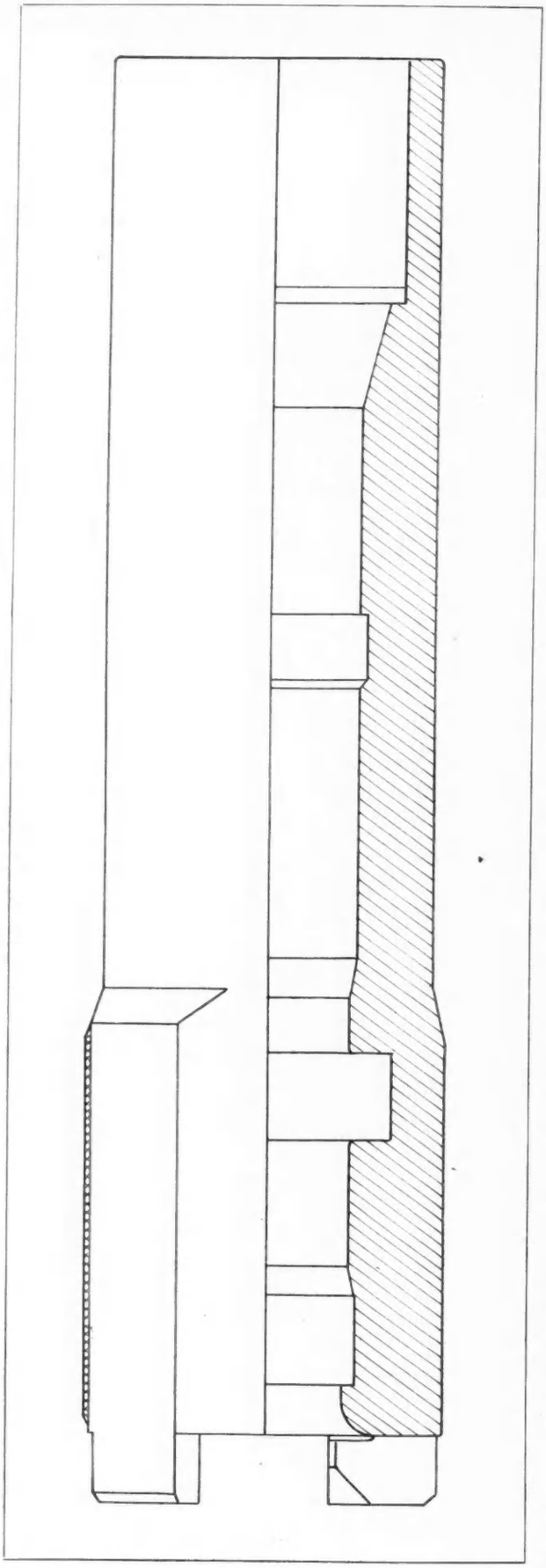

The bit head as it is left in the hole as a casing shoe after drilling blades have been recovered.

effects, changes in pressure and agitation, all of which stimulate initial movement of the shale. Continental Oil Company found that the use of heavy casing with special semi-flush joints for drilling strings had many advantages. It enabled the crews to keep the drilling string in the hole, thereby maintaining maximum support for the walls and retaining all of the hole drilled. This substitution of casing for drill pipe has been an important factor in the success thus far obtained.

Most of the company's heaving-shale drilling with casing was done with a collapsible wire-line bit. A shale bit of the ordinary drag type that could be milled off when the casing was set also was used.

In Moody 2-A, 11¾-inch, 60-pound, Grade D casing was set and cemented at 6424 feet. A string of 8⅝-inch, 43-pound, Grade D, semi-flush (slightly upset) casing was then rotated to 8023 feet and cemented with 400 sacks at 8020 feet.

One of the common troubles in heaving-shale drilling is the sticking and freezing of the drilling string by the settling and packing action of cavings and cuttings. This is especially apt to occur when circulation is stopped to add to the drilling string. The need for quick connections and continuous circulation prompted the development of the hammer joint and the Dyer continuous circulation joint.

The hammer stabbing joint is placed about 8 to 10 feet below the swivel and is used to make quick connections between it and the drilling string. No kelly is used. This device consists of two parts, a male and female end. The female end is connected directly to the swivel by an 8- to 10-foot sub. It is lowered over the male end, which is made up on the casing stand of two joints in the rat hole. Upon being lowered over the male end, two wedge-like keys are hammered into place through the female end, engaging lugs on the male end so as to make a tight connection. Safety pins insure the wedges remaining in place.

The Dyer continuous circulation joint is undoubtedly the company's most important mechanical development for heaving shale drilling. It is made in the form of a tool joint and is about 30 inches long. A 3-inch threaded opening is provided in the side, but this remains closed with a lock plug during normal drilling operations. In a closed position, the side plug engages and holds a hinged flap to give the joint its full opening. When necessary to add casing to the drilling string, a mud hose is attached to the side port, and pressure applied through the opening while pressure is decreased and finally stopped from above. Pressure through the side port causes the hinged flap, which was released by unscrewing the side plug, to seat upward and close the vertical passage. When the additional stand of casing is added to the drilling string, the normal flow is again directed downward and the hose is removed from the side port. The side opening is then closed by screwing the lock plug into place, where it again engages and holds the flap in its downward position.

These joints are placed at the top of every double of casing used as drill pipe. They are as strong or stronger than the casing and do not add to the diameter of the drilling string. The joint has been used on 8⅝-inch casing and with 4½-inch drill pipe. It

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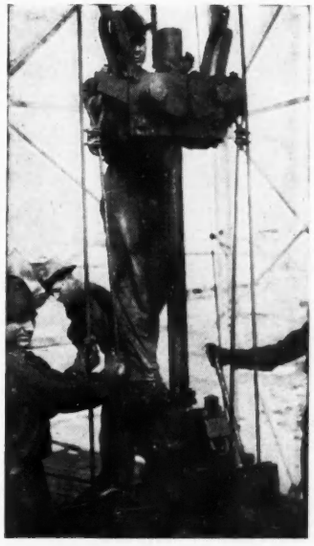

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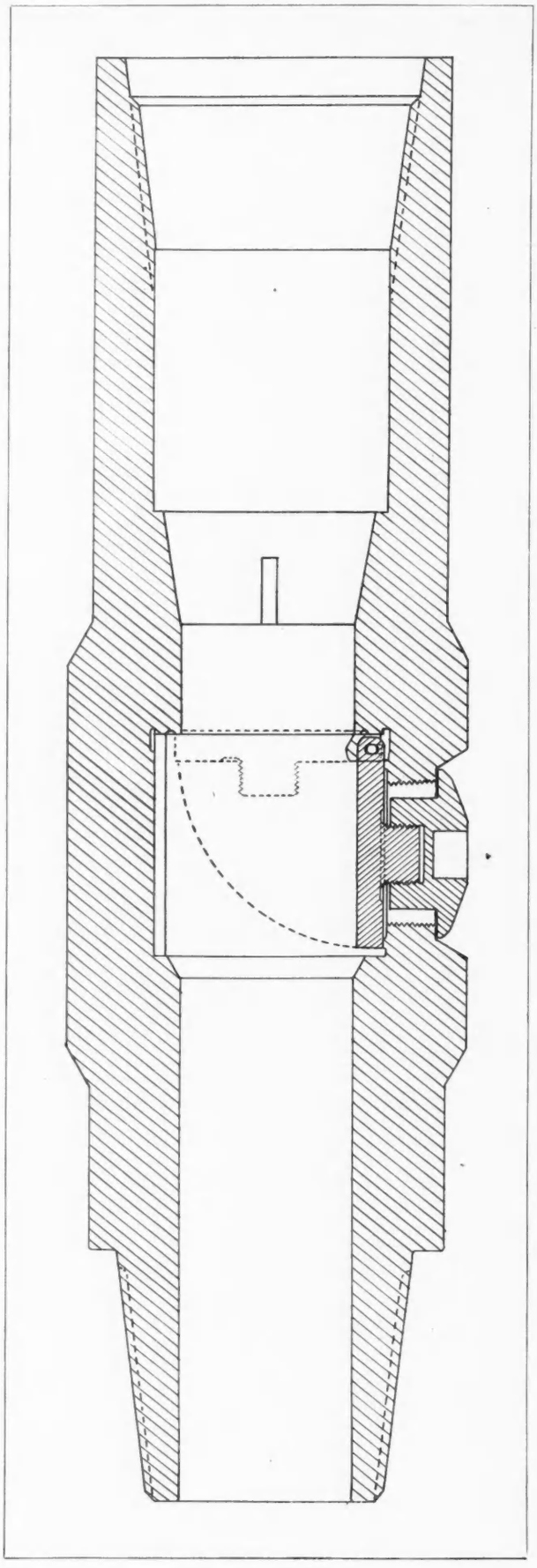

The valve joint, with which continuous circulation is maintained when another stand is being added to the drilling string.

was developed by J. G. Dyer, manager of the production department of the company.

A new device added during the drilling of Moody 2-A was an improved type of stuffing box that permits continuous circulation while withdrawing the wire line collapsible bit. This box is a type of packing gland with a rubber cone-shaped packer, through which the wire line is drawn under pressure. Circulation is provided by a port hole on the side.

Moody 2-A, the present drilling well and the third located near Seadrift, was drilled to 182 feet, where 20-inch casing was cemented. A string of 16-inch casing was cemented at 1474 feet, and the 11¾-inch casing at 6424 feet, after drilling to 6525 feet. At this point the full string of special 8⅝-inch casing was run and successfully used as drill pipe to 8023 feet.

The 8⅝-inch casing was run to bottom of the 11¾-inch string at 6424 feet, and before drilling was started at this point a back-off tool was placed in the string. A circulating valve was placed on top of each double of drilling casing in the string above the back-off joint. It was possible to back off and recover the circulating valves when the 8⅝-inch casing has been cemented at 8021 feet.

At 8023 feet, regulation 4½-inch O. D. drill pipe was run. Drilling from 8065 to 9085 feet was accomplished in a little more than four days, and only one bit was used. A string of 5¾-inch casing was cemented on bottom, after shale had caused some trouble below the 8⅝-inch casing.

In drilling from 8023 to 9085 feet with ordinary drill pipe, a special drive arrangement for the round drill pipe was used. The drive consists principally of a drill-pipe clamp, in which four tong guides are set. The grip on the pipe is secured by driving the wedges through slotted pins. In drilling, the clamps travel downward on two upright drive posts set at opposite points in the rotary table. Length of the drive is 36 inches, and when this amount has been drilled, rotation is stopped and the wedges sledged loose. The clamps are lifted to the top of the drive posts with the cat line. Drilling is continued and the operation repeated. It is impossible to use the conventional drive, because of the necessity for passing the tool joints through the rotary table.

To maintain continuous circulation, and especially to avoid breakdowns, the company, through Loffland Brothers, the drilling contractors, uses some of the heaviest and strongest equipment available. Heavy-duty equipment of all kinds is used, and a number of stand-by units are provided to perform the duties of any part that experiences a failure. The equipment at the well includes a large stock of replacement parts that might avoid a shutdown. When drilling was started, the objective was to maintain continuous progress until a safe stopping place could be found. The equipment is so complete that the layout might be called a small industrial plant.

Steam requirements have been especially heavy. The boiler installation includes 3 110-horsepower and 3 125-horsepower boilers. Oil is used for fuel, 3 500-barrel tanks being provided for storage. A pipe line has been laid from these tanks to the Seadrift highway, a distance of one mile, to meet fuel requirements during weather that would not permit use of the short road to the well. Six water wells insure

QUALITY

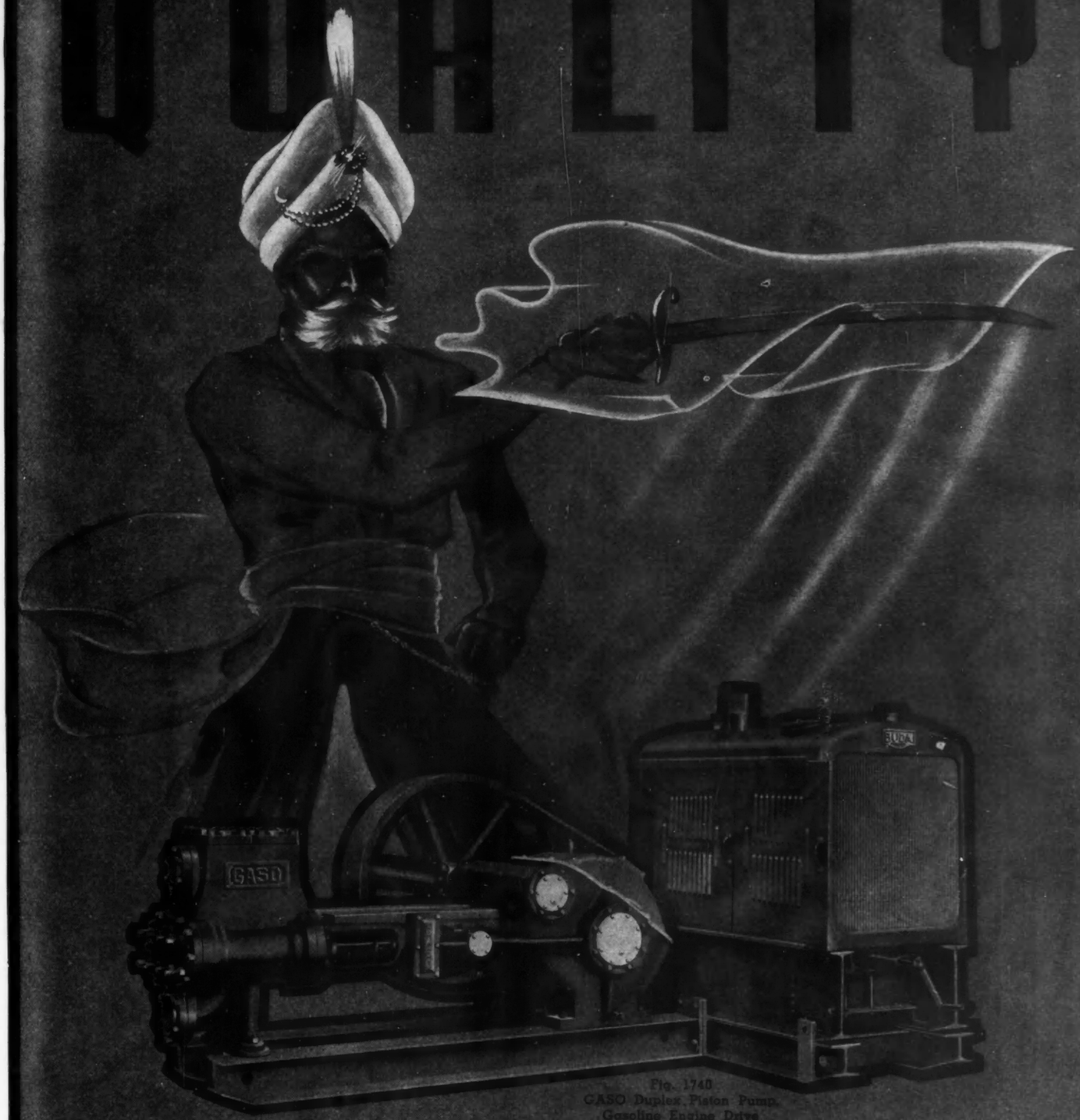

Fig. 1740
GASO Duplex Piston Pump
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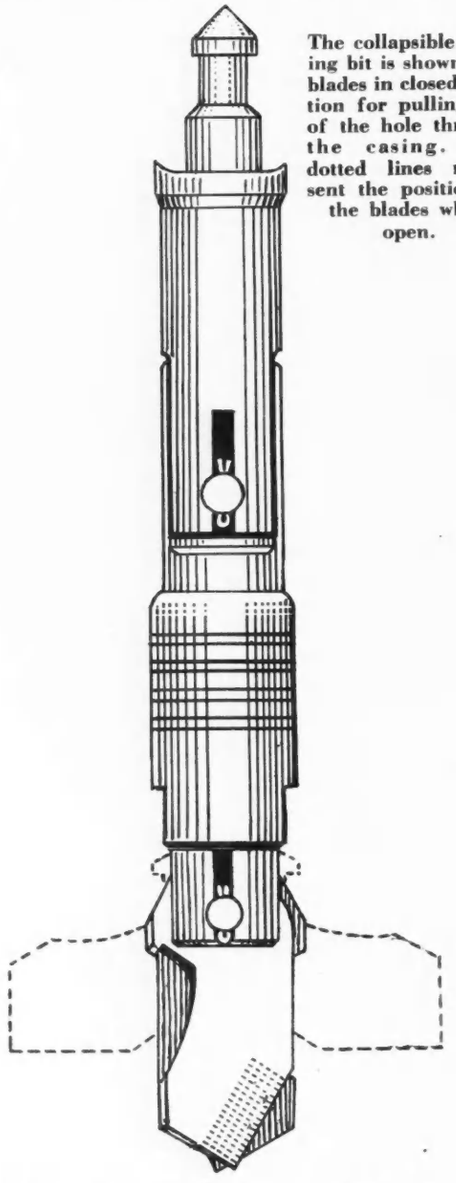
The slush pump installation includes 2 18-inch pumps and 1 15½x8½x20 pump, the last named being one of the largest and heaviest ever used. The hook-up provides for use of any 1 or 2 pumps, and for full compounding. A fourth pump is used for mixing drilling mud, a task of considerable proportions.

A heavy 14x14 roller-bearing drilling engine is used, with a 12x12 engine installed on the opposite side of the derrick floor as a stand-by unit. In addition to the main drawworks, an auxiliary drawworks is provided for emergencies. A heavy hydraulic rotary table was used when the 8⅝-inch casing was being rotated as the drilling string, but an ordinary rotary table was installed when the regular drill pipe was used for drilling below 8023 feet. The swivel and traveling equipment are of the heavy-duty type. The 136-foot derrick has a 30-foot base and stands on a 7-foot steel substructure.



The collapsible drilling bit is shown with blades in closed position for pulling out of the hole through the casing. The dotted lines represent the position of the blades when open.

Care given to the drilling mud is reflected by the equipment used in handling it. Seven tanks with a combined capacity of 4500 barrels hold the prepared mud and chemicals. A shed has been built over the suction pit, and covers placed over the mud troughs to prevent dilution during rains. Vibrating screens have been in constant use, and recently a centrifugal desanding machine was installed. This machine has been especially valuable in removing gas from the mud, a accomplishment that greatly facilitates the maintenance of mud weight.

A study of the action of the shale in Moody 2-A reveals a number of interesting facts concerning these formations. The true heaving shale was encountered at 6150 feet. Regular examinations of the cuttings showed that shale quickly disintegrated by water continued to 8300 feet, but below that depth the formations hardened slightly, contained more sand, and showed promise of standing up without heaving. None of these shale cuttings was as seriously affected by water as those above 8300 feet had been. Bottom of the shale that promised to give the usual trouble was accordingly placed at 8300 feet, and little fear held for the safety of hole below that depth.

A very interesting development followed completion of drilling to 9085 feet. High-pressure gas in sandy phases of the shale was encountered near the bottom of the hole, and trouble developed when the drill pipe was pulled. Shale blew into the hole in enormous quantities, causing a cavernous condition that led to subsequent heaving and loss of the lower part of the hole. While drilling and cleaning out these cavings, tests showed that the shale was not affected in the usual manner by water.

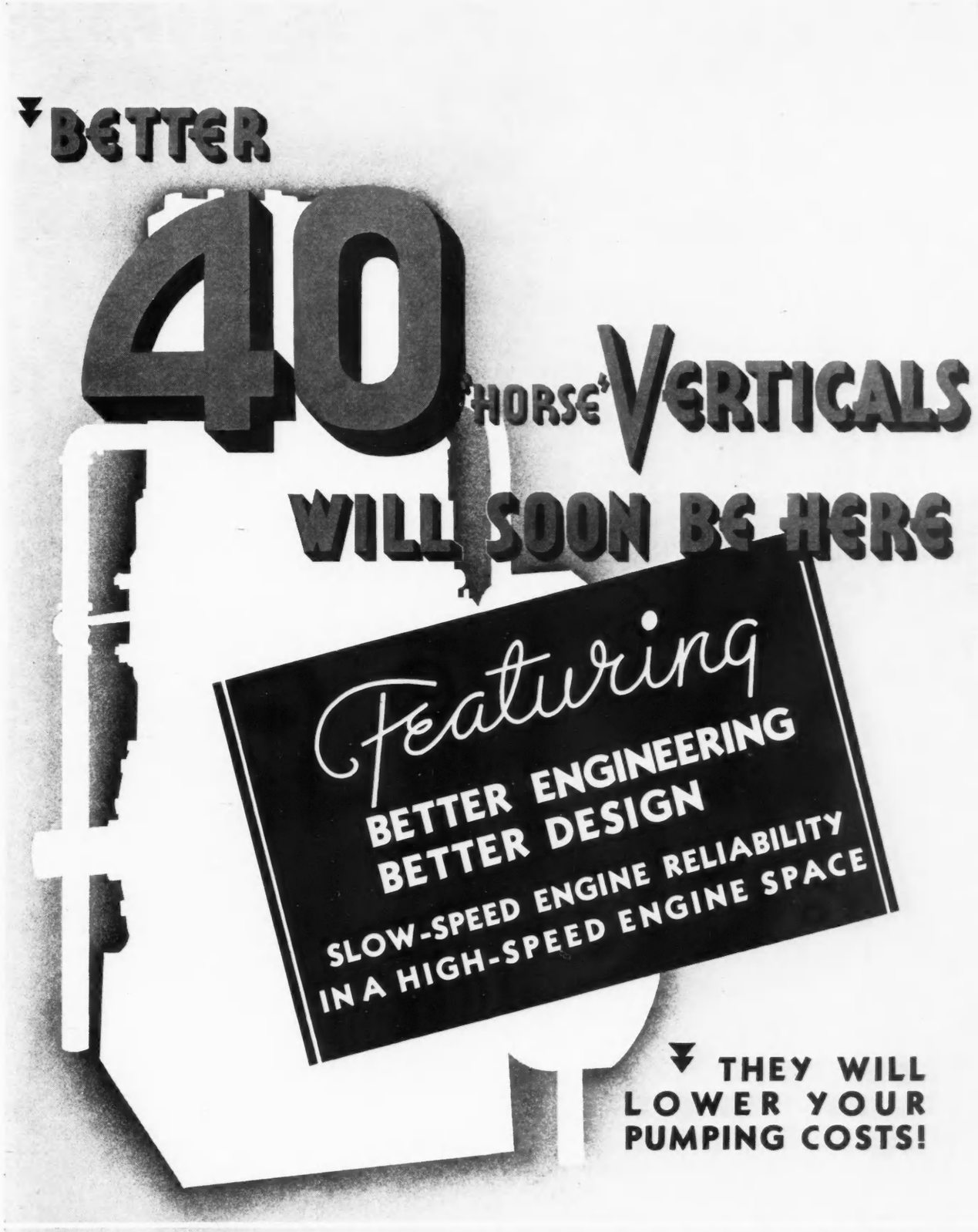
Action of the gas was overcome during drilling by the use of weighted muds. The mud was run into the hole at 14.5 pounds per gallon, and during the drilling of sandy shale streaks carrying gas the mud returned weighing only 8.5 pounds per gallon. Use of the heavy mud, degassed by the centrifuge, proved to be the solution to this phase of the problem.

It has been pointed out by company engineers that some of the soft waxy shales probably contribute to heaving through plastic flow caused by the weight of the overlying formations.

Very little coring or testing was done in open hole. Heaving shale will not allow practices that involve a cessation of drilling and circulation in open hole. The company watched returns closely and logged the formations in this way. When drilling is completed, it will be a simple matter to test the promising formations by perforating the casing. By starting at the bottom and working upward, progressive tests may be made.

The worst heaving-shale strata in Moody 2-A were encountered in the Discorbis, Heterostegina and Marginulina formations. Discorbis was found at 6030 feet and Heterostegina at 6850 feet. Streaks of shale near 5800 feet showed heaving tendencies, but the main body was found at a greater depth.

The Continental Oil Company men who worked out these advances in heaving shale drilling, more especially J. G. Dyer, under whose direction and personal supervision most of the work was done, and Loffland Brothers, the contractors, should derive considerable satisfaction from the success thus far attained.



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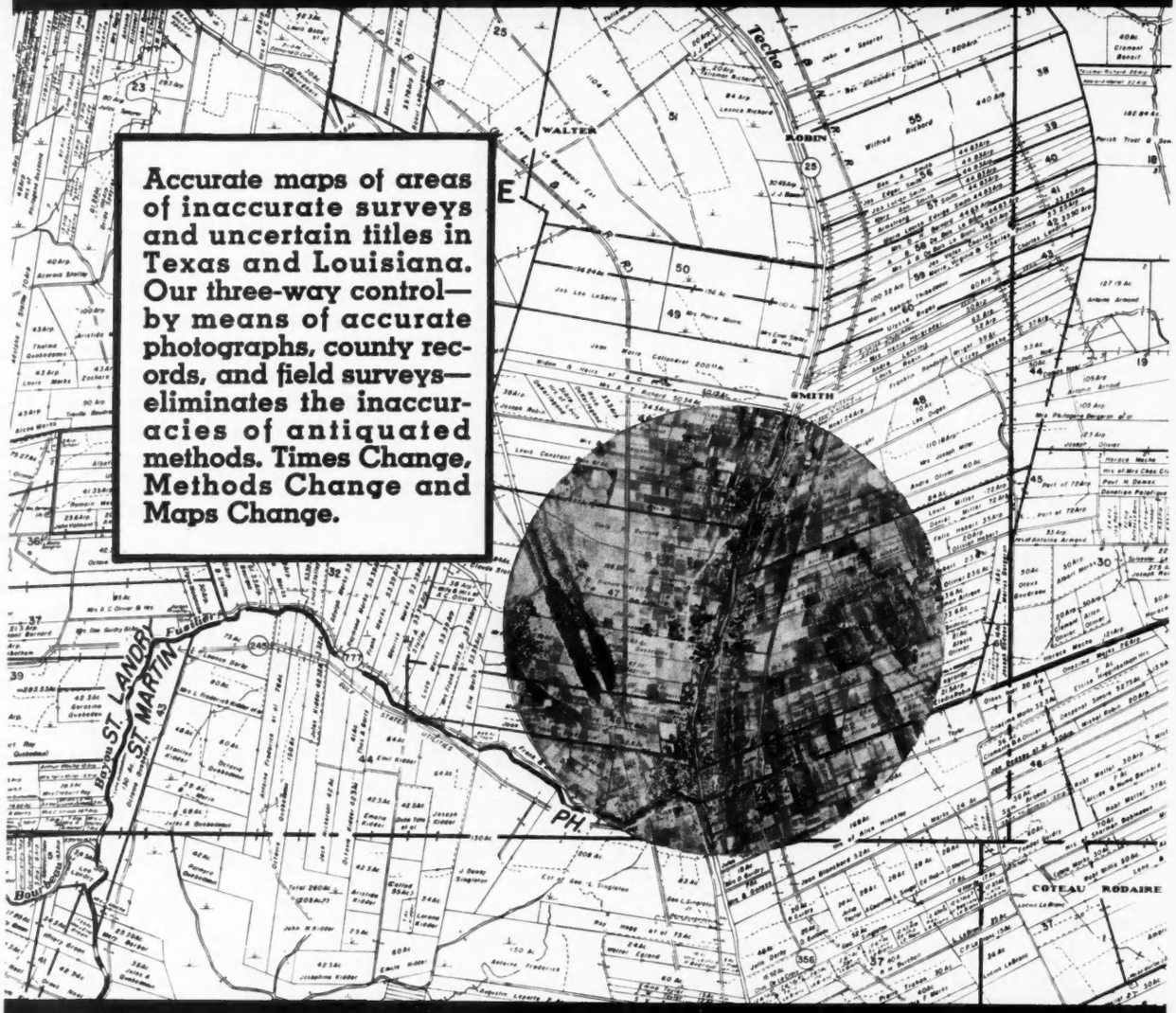

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The Conroe Trend

FIRST INTEREST HAS WANED BUT THERE STILL ARE POSSIBILITIES

By GENE R. SMITH,
Consulting Petroleum Geologist,
Houston, Texas

WHAT has happened to the Conroe trend? Here is a question asked with increasing frequency for the past year. It is true that there has been a gradual decrease in interest and number of exploratory operations for some months.

Is this lessened activity attributable to the comparatively small fields brought in since Conroe was found; was interest diverted temporarily upon finding of profitable but deep Oligocene production at Anahuac, Hastings and similar fields, or have the major companies begun to suspect that there are no more large fields to be found along this trend? This article attempts to evaluate without prejudice the possibilities of the area, treats of methods used in exploring the trend and is written with the sincere hope that a brief description of the stratigraphy and the structural conditions existing in the producing fields and more prominent uplifts may be of some value in future prospecting. A clearer appreciation of the problems encountered by the geologist and the geophysicist in ascertaining accurately the degree and location of local structural uplift in this area, is desirable.

SINCE the discovery of a gas and distillate well by George W. Strake on fee lands of South Texas Development Company, near Conroe, on December 13, 1931, and the subsequent discovery of oil six months later, which led to the development of the Conroe field, there have been many wildcat tests drilled in what is termed the Conroe trend.

After Conroe had been proved as an oil and gas field of more than ordinary size, the predictions and expectations of many operators were that along this trend would be found several or many more fields of this type and size, within a short time. To date the result of the wildcat campaign which followed, may be expressed as having been, at the least, mildly disappointing. While several quite profitable fields have been discovered in the trend, nothing that might be classified as a major pool has been found.

The Conroe trend as interpreted by the writer, comprises from west to east, all or parts of the following counties and parishes: Fayette, Lavaca, Colorado, Washington, Austin, Waller, southern Grimes, the northern fourth of Harris, Montgomery, the southern third of Walker, the northern third of Liberty and Hardin, the southern two thirds of San Jacinto, the southern half of Polk and Tyler, the northern three fourths of Jasper and Newton, thence eastward into Louisiana through Beauregard, Allen and southern Vernon and Rapides parishes. Approximately the same favorable geological conditions exist on farther eastward through Louisiana, but are not included in this article, although not because of any lack of potentialities.

Within this area are found the following fields and prominent structural uplifts: Brenham, Clay Creek, Raccoon Bend, Katy, Hockley, Tom Ball, Conroe, Willis, Cleveland, Livingston, Ace, Cheneyville and Pine Prairie.

Along this trend, as elsewhere, there have been the usual large percentage of wildcat tests drilled for no good reason other than that a block of acreage and a drilling rig were available, someone with gambling proclivities was receptive to the idea of purchasing some leases near the test and the operator was obsessed with the belief that so long as a rotary table was "turning to the right," he might strike oil. Nor was he always wrong.

Local structural conditions are very difficult to determine along the Conroe trend, regardless of whether surface, sub-surface or geophysical methods, or a combination of all, be used. The geologist is handicapped in surface work by the lack or scarcity of resistant strata by which he might determine the dip of the formations. Sub-surface work, unless supplemented by competent paleontological determinations or electric logging records, can lead to some erroneous interpretations because of the apparent similarity of the section drilled as shown in the driller's log. Sub-surface lithologic correlations along the trend are sometimes indicative but rarely conclusive.

Despite the present belief in the infallibility and omniscience of geophysics prevalent at this time, the writer is sorry to say that this method too has its decided limitations in this particular area. He hastens to add though, that these limitations are caused not so much by a deficiency in the quality of the geophysical work as by regional earth conditions over which the geophysicist has as yet no control. The following remarks concerning this type of exploratory work are not made disparagingly; on the contrary he knows that the science is vitally necessary and that in some areas it is the only method which can be used. However, he does not believe that geophysical results should blind the professional man to all other facts which might determine the possibilities of an area, as has been true in some instances in the past. Geophysical methods are as subject to error as other branches of science that

deal with the determination of structural conditions. Some errors due to the human equation are unavoidable by any method.

The writer sincerely believes that there should be a much closer alliance between the geologists, the scouts, the geophysicists and the paleontologists. It does not necessarily follow that because a weak geophysical picture is made of an area, that that area is barren of oil, if other criteria are favorable.

He recalls that several major companies refused to buy 2000 acres of what later proved to be some of the best oil land in the Conroe field, at a price of $5.00 per acre, because "our picture shows nothing there." This was after strong gas pressure was known to exist in the Strake discovery well. This happened in an area having 800 feet of uplift. Several geophysical maps showed an anomaly northeast of the Strake well, which was located in the extreme northwest part of the field. But one map, of the many that the writer has seen, pointed out the field with any semblance of accuracy and it was made by the refraction seismograph method.

It is quite true that geology was not responsible for the field, but this example emphasizes the need of cooperative exchange of information. The scouting departments of most companies, if asked, would probably have recommended the purchasing of acreage because of the gas and the many shows of oil and gas higher in the section; the geologists and paleontologists would have done likewise for the same reasons and because of the abnormally high structural position of the well. The simple fact that heavy gas pressure together with evidence of a structural high existed, seems to have been entirely overlooked.

The directing head of one of the largest and most highly thought of geophysical companies on the Gulf Coast, a man who is held in the highest esteem by his contemporaries and by the writer, recently remarked that his company "had shot practically all the Conroe trend" and could not find enough uplift anywhere to cause him to expect any more oil fields. Judged purely by past result, such faith as this must be considered and classified as religious, rather than scientific. Apropos of this statement, it might be mentioned that there ars some thousands of square miles of the trend on which there has been practically no geophysical work done because of the tremendous fee holdings of oil and lumber companies, in Tyler, Jasper and Newton Counties, Texas, and most of the parishes of Louisiana.

It is true and only fair to point out that such fields as Tom Ball, Livingston, Cleveland and Cheneyville were found by geophysical methods, with geological opinions playing a very minor part. The chief of the land department for one of the major companies recently told the writer that under the present policy of his company that he could not buy a lease around a drilling well even though he personally saw saturated oil sand cored in the test, unless his company had geophysical work around the test. During the discussion that followed this remark, the writer, in attempting to show the fallacy of such a policy, brought out some of the following facts.

The axes or crests of torsion balance and reflection seismograph pictures can seldom be super-imposed one upon the other, as the first method is a measure of density as expressed by gravitational pull and the second, an estimate of depth and inclination of those strata which best reflect the sound waves.

The Conroe trend is unfortunately, rather less suitable for torsion balance than seismograph work. This is due to a change of regional gradients. South of an imaginary line running through Conroe and paralleling the strike, the regional pull is toward the Gulf of Mexico; north of this line the pull is toward the north. This change of regional gradients is thought by some geophysicists to be attributable to the affect of the Gulf of Mexico and the great geosyncline, the axis of which parallels and approximately coincides with the present coast line. To the north of the line through Conroe, the old Llanoria land mass may affect the gradients.

But whatever the reason for the change in regional gradients, the affect is that there are many false minima produced, even though the field work and interpretation are done most competently. Many of these pictures have been tested and found structurally normal.

The reflection seismograph is handicapped to some extent, but is preferable to the torsion balance. Among the factors causing difficulty in seismograph interpretations are a greater topographic relief along the trend as compared to the more gently sloping Coastal prairies to the south and the presence of a high percentage of lensing sandy material in the strata near the surface. This zone of low velocity material necessitates many corrective computations. To be considered too are the unconformities probably existing in the Cook Mountain and Mt. Selman formations of the Claiborne Group as the marly beds of the first and the ferruginous sands of the second give excellent reflections. It is probable that in some instances that the reflections are from one or more buried hills capped by dense materials rather than from strata that are structurally high.

Area Has Possibilities

The writer does not believe that the Conroe trend has been prospected as thoroughly or as scientifically as it deserves. He believes it to be an area having enormous possibilities for oil production in the future, That part of the trend considered herein consists of a strip 330 miles long and 40 miles wide, running from the western line of Lavaca County, Texas, to the Cheneyville field in Rapides Parish, Louisiana, and having a total of over 13,000 square miles. In all this area we have definite evidence that there has occurred considerable folding and faulting of the strata, which should provide the proper structural conditions necessary for the trapping of petroleum. It is illogical and against all the laws of tectonics or probability that the few fields and known uplifts found to date in this area represent with finality the total of all that is to be found.

Practically all wells drilled along the trend have been abandoned in the Cockfield formation. There has been no particular reason for stopping in this formation, except that most of the production obtained to date has been from the Cockfield. Within easy reach of the drill there are thick sand bodies having highly attractive possibilities, namely, sands in the lower Yegua, the Sparta member of the Cook Mountain, the Queen City member of the Mt. Selman and sands of the Wilcox formation. There is no reason why some of these sands will not produce, in fact they are now productive in the Clay Creek field, Washington County, in the western part of the trend.

As a suggestion for future prospecting, it is be-

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lieved by the writer that a careful revision of present sub-surface maps with particular attention being given to the correct location and elevation of test wells drilled in the past, together with the construction of new isopak maps, might be of considerable value in concentrating future geophysical work and would probably lead to new discoveries. All datum points used for contouring the region should be rechecked through every possible source.

CONROE TREND TYPE WELL LOG
Courtesy Hershal C. Ferguson, Consulting Paleontologist
Houston

The type well log here shown is a composite log constructed from many wells drilled in the Conroe oil field and illustrates excellently the formations drilled in the Conroe trend down to and including the Cockfield.

From	To	Description
0	20	Surface sand and clay
20	50	Pink and red clay with gray sand
50	160	Fine to medium grained sand with pink and red clay
160	220	A few lime nodules
220	350	Fine to medium grained sand with pink and red clay
350	550	Vari-colored clay
550	655	**Upper Oakville** sand with reworked Cretaceous material
655	725	Clay with streaks of dull clay sandy clay
725	750	Sand
750	1000	Clay (gray) with lime nodules, vari-colored, chocolate to red, rare.
1000	1030	**Middle Oakville** sand.
1220	1260	Sand with hard streaks, often called boulders
1260	1300	Shale and sand as above
1700	1750	**Basal Oakville** sand—medium grained gray sand salt and pepper appearance, gray to black chert, colored quartz, a few hard streaks occasionally very coarse grained, pyrite, no diagnostic forms.
1715	1733	Texas Co. No. 1 Moody cored reworked Cretaceous, very rare.
1750	1800	**Top of Catahoula,** volcanic glass, green bentonitic clay
1800	1840	Tuffaceous
1840	1900	Hard Streaks, highly polished quartz observed occasionally.
1950	2020	Light gray, medium grained, clayey sand, gray to black chert.
2020	2080	Green and gray sand and clay, gray chert.
2270	2300	Soft medium sand, coarse gray and black chert.
2300	2475	Bluish green clay, some pyrite.
2475	2500	Fine grained, clayey, calcareous sand, light greenish gray.
2530	2550	Fine to medium sand with some green clay, gray chert, pyrite.
2550	2575	Sand-oil show in high wells, such as Humble Oil & Ref. Dobbins No. 1.
2930	2960	Volcanic ash and clay with sandy streaks
3000	3030	Clayey sand
3095	3105	Volcanic glass
3150	3170	**"Rice Sand"**—medium to fine grained sand
3190	3210	Lignite and streaks of lignite in shale, green to light brown, unlike brown shale in Vicksburg.
3235	3270	Coarse, slightly clayed dull gray sand
3320	3350	Light gray sand, quartz and gray chert—above this point is usually medium grained and tuffaceous.
3350		**Top of Vicksburg**
3350	3500	Dark brown and gray brittle shale, cuttings show as rectangular fragments, an occasional Miliolodue and other obscure arenaceous foraminifera. Textularia warreni rare.
3500	3525	Fine to medium grained light gray sand, gray to black chert.
3550	3570	White, opaque shell fragments
3570	3600	Dull gray to dark green brittle shale
3600	3610	Ammobaculites sp.
3610	3675	Textularia warreni very common in field and trend
3675	3680	Lime
3680	3710	Gray water sand and gray chert
3710	3770	Textularia warreni Cristellaria sp. common
3770	3840	Light, bluish gray, soft, medium grained sand, gray to black chert. Top Fayette (Jackson)
3840	3870	Trachemini teasi, Pulvinu linella sp. Ammobaculites, Uvigerina
3870	3990	Dark gray to brownish black shale with occasional streaks of fine grained mica in small amounts—very consistently dark in color.
3900	4070	**Top of Textularia Hockleyensis** sometimes distorted but typical.
4070	4150	Sticky shale, shell and sand streaks, foraminifera rare.
4150	4155	Oil sand, tested in some localities
4155	4220	Dark gray to black brittle shale
4220	4250	Sand and shale, a few shells
4325	4430	Dark Gray to black shale, a few shell fragments
4430	4600	Textularia Hockleyensis abundant
4600	4675	Textularia Hockleyensis abundant, but usually distorted.
4675	4690	Pyritized diaton zone, Textularia mississippiensis, Vav. Rhomboidea, Buluminu Sp.
4690	4700	Glauconite—common
4700	4780	Shale, shell quite common, Virginulina Sp. quite rare above this point but sometimes in Fayette.
4780	4800	**Textularia Dibollensis,** dark greenish black shale, shells abundant glauconite, Glandulina sp.
4800	4830	Shale and shells
4830	4850	About 20 feet of highly fossiliferous shale, highly calcatized foraminifera above Operculina horizon.
4850	4900	**Operculina Oliveri** hard glauconitic, greenish gray sand with shell fragments, show of gas.
4900	4920	Dark, brownish gray, brittle shale with mica, common, show of gas at base, **Nonionella Cockfieldensis**
4950	4970	Sand, show of gas, some production in South part of field.
4970	5065	Shale with thin streaks of sand, show of gas.
5065	5075	**Discorbis yeguaensis**
5075	5095	Brownish gray, fine grained sand with small amount of shale—show of gas and oil, some wells producing from this horizon.
5125	5145	Sand, show of oil—top of main Conroe oil sand.
5145	5350	Sand, intercelated with shale
5350	5370	**Eponides Yeguaensis** Upper Saline Bayou
5400	5450	Sands and shales, considerable lignite.

SUMMARY

Oakville	550 to 1750	Thickness	1200
Catahoula and Frio	1750 to 3350	"	1650
Vicksburg	3350 to 3840	"	490
Fayette (Jackson)	3840 to 4070	"	230
Massalina Pratti	3990 to 4070	"	80
Textularia Hockleyensis	4070 to 4690	"	620
Textularia Dibollensis	4690 to 4900	"	210
Operculina Oliveri	4860 to 4900	"	40
Nonionella Cockfieldensis	4900		

Drilling Characteristics

For the benefit of geologists, paleontologists, drillers, contractors and oil men who may not be familiar with the area, the following brief description of the characteristics of the formations as drilled is given:

Lagarto: The Lagarto consists of tan and grey calcareous sands and clay that washes out easily under pump pressure.

Oakville: The Oakville becomes more sandy than the above Lagarto and streaks of dark red and chocolate clay are very common. An abundance of reworked Cretaceous material is often observed under the microscope.

Catahoula—Frio: The Catahoula and Frio are often grouped together in paleontological determination due to their similarity. The top of the Catahoula is usually determined by the first bentonitic non-marine clays. Volcanic glass is found generally near the top when a close microscope examination is made. Often a change of color is noticed in the drilling mud from a reddish tan to gray. The only apparent difference noticed in Catahoula and Frio is that Frio grades into a darker green or light bluish gray toward its base. The lower 150 feet of the Frio may be represented by bluish gray clay, coarse grained sand and a few thin lignitic streaks.

Vicksburg: The Vicksburg consists chiefly of gray to brownish gray marine shales, sandy shale and sand. The bit cuttings of this formation will contain long rectangular thin fragments of shale that will increase in abundance with depth. Shell fragments are not uncommon in the basal 300 feet. A sand or very sandy shale is usually found overlying the Fayette.

Fayette: Dark grayish black marine shale, sandy shale and streaks of sand make up this formation. The lower 70 feet or Massilina Pratti horizon consists usually of these streaks of sand and shale with inter-bedded shells.

Textularia Hockleyensis Zone: The top of the Textularia Hockleyensis zone is often a stickey shale bed. A very small amount of sand is ever logged by the driller in this formation, although a few sandy shale streaks are logged near the top occasionally.

Textularia Dibollensis Zone: The Textularia Dibollensis zone consists mainly of glauconitic shales and marls which are readily recognizable under a miscroscope. In the lower 30 feet is found a very pronounced hard shaley sand with an abundance of shells known as the Operculina horizon. Drillers will often note this zone as being very firm. Any formation with this thickness and firmness is seldom encountered in the Jackson series above.

Cockfield: Underlying the Operculina horizon is found brown brittle shale and thin streaks of fine grained sand. The color of these shales is very diagnostic of Cockfield differing greatly from the gray shales above. The amount of sand and the depth within the Cockfield where sands are found depend on the locality, for they are regarded as being very lenticular.

The remainder of the article will be devoted to some brief comments on the salient structural characteristics of the fields and more prominent uplifts occurring along the Conroe trend.

Brenham Salt Dome

This circular, steep sided, shallow piercement type dome is located nine miles southwest of Brenham, on the Washington-Austin County line. No faulting is evident in the field proper although it is thought that a large fault downthrown to the west exists off the northwest flank of the dome.

The field was discovered over 20 years ago; a few barrels of low gravity crude being taken from a well drilled for water at a depth of 104 feet. Shallow sands ranging in depth from 100 to 200 feet form the present producing horizon, although some short lived production has been found just above the cap rock, encountered at 1200 feet. In 1934, 30 shallow wells were averaging less than one barrel per day. The

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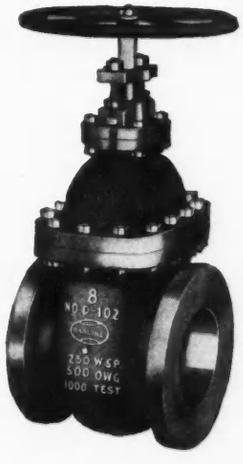

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sides of the dome are very steep, being nearly vertical.

Clay Creek

This piercement type salt dome is located 12 miles north of Brenham in extreme northern Washington County, just south of the Burleson County line. It is quaquaversal or circular in shape and has a diameter of about 8000 feet. A marked surface depression occurs directly over the top of the dome. Production is found in sands that lie directly over the top of the dome, no flank production having been found as yet. The apex is in the west central part of the Ann Freeman Survey.

The field produces from the lower Yegua, the Sparta member of the Cook Mountain, the Queen City member of the Mt. Selman and from two sandy phases of the Wilcox. All of these sands are below the Cockfield and have been seldom tested farther northeastward along the Conroe trend.

Three radial scissors faults exist on the southeast, south and southwest parts of the dome, the displacement increasing outwardly from the central part. The southwest fault is downthrown to the northwest, having a displacement of 150 feet; the middle fault is downthrown to the west, the amount of throw being 200 feet and the largest fault on the southeast flank being downthrown to the east.

Raccoon Bend

This deep seated dome is located 60 miles northwest of Houston in a bend of the Brazos River in eastern Austin County. The center of the field is just north of the Wm. Harvey Survey.

Contoured on the top of the Textularia Hockleyensis zone, about 800 feet of uplift is present, badly complicated by five normal faults, ranging in displacement from 110 to 250 feet. The three northernmost faults are downthrown to the south, and the faults on the south end are downthrown to the north, forming two grabens of considerable size, one being in the central and one in the eastern part of the field. These grabens and the lensing nature of the sands have affected production considerably.

The Oakville gas sand is found at an average depth of 1000 feet; the Massalina Pratti (Whitsett) zone oil sands at an average of 3150 and the Tex. Hockleyensis (McElroy) zone sands at 3475 feet. At present the field produces about as much water as oil. It is owned and operated by Humble Oil & Refining Company, who is conducting an interesting gas repressuring program. Although contrary to the general belief, Humble Oil & Refining Company was not the discoverer of this field, but they were the first company to recognize its possibilities.

Despite a marked topographical high, strong showings of petroleum gas in water wells and the presence of sulphur water, which had been common knowledge for 50 years, this field was not found until Henry Stati brought in a gas well in 1926, which later produced about 35 barrels of 17 gravity crude daily. Lack of exploration may be attributed to the often expressed belief that the prospect "was too far inland to produce."

Katy-Brookshire Area

Here is one of the most interesting uplifts of the Conroe trend and has high possibilities. As but one well has been brought in, not much is known as yet of the structural conditions. The area is located in southeastern Waller County about three miles south of a line drawn through the San Felipe and Hockley salt domes in the H. & T. C. R. R. Block 1 Survey.

Stanolind Oil & Gas Company's Thorp 1, in the southeast corner of Section 100, made considerable gas and distillate from the Cockfield and Upper Saline Bayou recently. The depth at which formation markers were found indicates an uplift in excess of 500 feet around this well. This test is 5½ miles southeast of Stanolind Oil & Gas Company's Manor 1, a dry hole.

Sub-sea depths to some of the formations in each well are as follows:

Stanolind, Manor 1, Elevation 187 feet:		
Heterostegina	minus	2578
Vicksburg	"	3988
Warreni	"	4433
Massalina Pratti	"	5138
Tex. Hockleyensis	"	5198
Tex. Dibollensis	"	5858
Operculina Oliveri	"	6135
Cockfield	"	6151
Total depth		6713
Stanolind, Thorp 1, Elevation 176 feet:		
Heterostegina	minus	2689
Tex. Hockleyensis	"	5065
Cockfield	"	5998
Eponides Yeguaensis	"	6374
Cook Mountain	"	7302
Total depth		7647

Hockley Dome

This largest of Coastal piercement domes is located 31 miles northwest of Houston, in Harris County, the top of the dome being approximately in the middle of the Joshua Hudson Survey. Structurally it is located in a synclinal depression.

The longitudinal axis trends N. 22 W., the diameter along this line being about 28,000 feet. The top of the cap rock is quite flat with the sides of the salt core sloping off abruptly at angles of from 55 to 65 degrees. The salt has been intruded to within 1000 feet of the surface.

A negligible amount of production of oil has as yet been found, although a few small wells have been produced in the past from the cap rock and shallow sands on the flanks.

Tom Ball

A deep seated salt dome, having more than 800 feet of uplift and about 350 feet of closure, complicated by extensive faulting. It is located northwest of Houston, Harris County, in and west of the town of Tomball, being just south of Spring Creek. The Hooper Survey is the approximate top of the field.

An upthrown fault block, or horst, runs through the central part of the field at an angle of N. 55 E. The faults, which are of the normal type, have an average of 150 feet of displacement, and have an important bearing on production.

The interval between the gas-oil and the oil-water contacts is very thin, being but 20 feet or from 5370 to 5390 feet below sea level. The productive horizon is the Cockfield, within which there are four sands. In the event none of these sands are found between the sub-sea levels given above, the result is a gas well or a dry hole. The faulting has permitted intercommunication of gas, oil and water between the sands.

Conroe

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five miles southeast of Conroe, the county seat of Montgomery County, the approximate middle of the field being in the W. Strickland Survey.

Structurally, it is a faulted anticlinal dome, the longitudinal axis of which trends N. 17 W. Three major faults trend east and west across the field and form a large graben paralleling the faults in the central part of the field. The south fault is downthrown to the north with a maximum displacement of 150 feet; the north faults have approximately 100 feet of throw and are downthrown to the south. There are a number of small radial faults on the rim of the anticline and a very badly faulted zone in the east central part of the field. The faulting has been of such extent that it permits intercommunication of gas, oil and water between the two sands.

The producing horizon is the Cockfield, the two producing sands being found at depths of 25 and 225 feet below the first Nonionella Cockfieldensis, the lower sand being known as the main Conroe sand. Gas is found above a sub-sea depth of 4850, oil between minus 4850 and 4890 and salt water below minus 4890.

It is the belief of the writer that at some later time, considerable commercial production of oil will be obtained from the Textularia Hockleyensis zone, which is found at an approximate depth of from 3800 to 4700 feet, depending upon the structural location. Some very richly saturated cores have been taken from this zone, which is productive at Raccoon Bend.

Willis

There is some evidence of a structural uplift in or near the town of Willis, which is nine miles north of Conroe, Montgomery County. In June, 1935, Charles B. Gholson completed Parks Heirs 1, located 4½ miles northwest of Willis, for a very small producer in the Cockfield formation at 3768 feet. The oil sand occurs 73 feet below the top of the Cockfield. This well was completed under very adverse mechanical conditions and has flown a few barrels of oil and has registered a gas pressure of 750 pounds.

The writer's interpretation of the structural condition causing this accumulation is that a structural terrace has been cut by a small fault. This fault, if it exists, trends N. 55 E. between the Gholson's Parks and the Gholson's Crawford tests. The downthrow is to the southeast and the displacement not more than 30 feet.

From the topographical appearance, geophysics and sub-surface information afforded by an old test drilled in the eastern part of the Willis townsite, there is considerable evidence of a structural high in or near Willis. The University of Texas Bulletin No. 3232, The Geology of Texas, lists this prospect as a probable deep seated salt dome.

Cleveland

This field is located four miles southeast of Cleveland, Liberty County, and is almost entirely within the Jno. Pleasant Survey; a small part of the field extends into the Chas. Smith and Thos. Devers Surveys. The field occurs on a domal anticline, the axis of which, although not thoroughly, is now slightly elongated northeast and southwest. It is complicated by faulting, the larger of the two faults found to date trending east and west, being downthrown to the south and having a displacement of 200 feet. A small cross fault with a displacement of 50 feet occurs between wells No. 1 and 10, trends northeast and southwest.

The productive horizon is the Cockfield, the two sands being found 70 feet and 225 feet below the top. The discovery well was completed at 5731 feet, and the field as yet is not defined. It is possible that another east-west fault will be found on the south flank. The faulting does not permit full inter-communication of gas, oil and water between the two sands.

Livingston

This field is located southeast of Livingston, the county seat of Polk County, and produces from sands found about 30 feet below the top of the Cockfield formation. There is very little if any structural uplift apparent. As usual wth Conroe trend fields, there are several normal faults. However, the strike of these faults is unusual in that they trend N. 12 W. instead of the customary northeast to east trend. The field is not fully defined as yet, the present approximate top being near the northwest corner of the M. Swinney Survey. The three primary faults form an uplifted fault block in the east part of the field and a graben in the west part. The average producing depth is 4300 feet.

Ace

Title difficulties have prevented the development of this field, which is located four miles southeast of the Livingston field, in the east central part of the G. S. Thomas Abstract 72 Survey. Wells reveal in excess of 250 feet of uplift. The producing horizon is the same as at Livingston. A surface fault is mapped trending N. 45 E. and is located west of the Schwab wells. The downthrow is to the east. The average depth to the producing horizon is 4750 feet.

Cheneyville

This new discovery is located in Section 53-1s-2e, in extreme southeastern Rapides Parish, Louisiana. The reflection seismograph is to be credited with the discovery. But two wells have been brought in to date, each well being capable of producing over 200 barrels per day through ¼-inch choke.

Compared with some tests drilled to the northeast, the field is between 200 and 300 feet high structurally and has already found characteristic faulting. The second test, located east of the discovery, faulted out enough section to prove the existence of a fault downthrown to the west and having a displacement of over 150 feet.

The first sand carrying gas is found 100 feet below the top of the Cockfield; the oil is found in broken sand within the next 100 feet. From the limited amount of development it appears that the thickness of the saturated oil zone is somewhat analogous to Tom Ball in that the interval between the gas-oil and the oil-water contact is rather thin. However, the assumption of this condition is based upon data from the first well, and as this well is structurally lower than the second, there is a possibility that the discovery well is located in a graben, which condition could tend to show a thinner oil section than might subsequently exist in other parts of the field.

Pine Prairie

This field which is no longer productive, is located in Sections 35 and 36-3s-1w, Evangeline Parish, Louisiana. It is a piercement type dome with the limestone cap rock appearing on the surface. Salt is found within 500 feet of the top of the cap, or the surface. Wells in the cap rock and from the Miocene have produced a small amount of oil.

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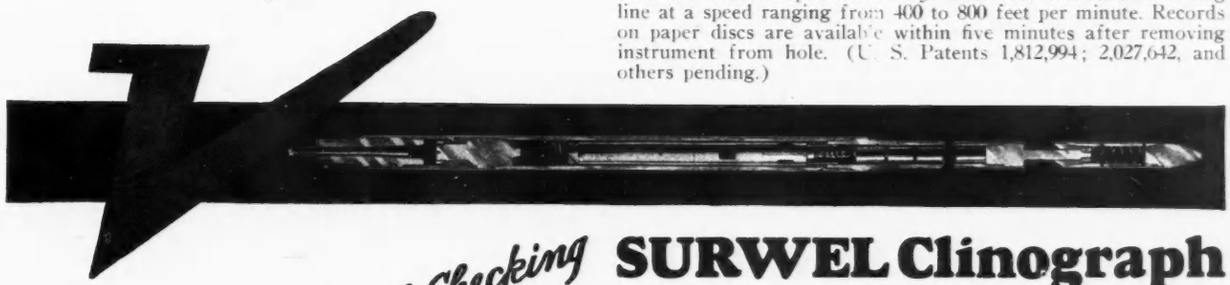

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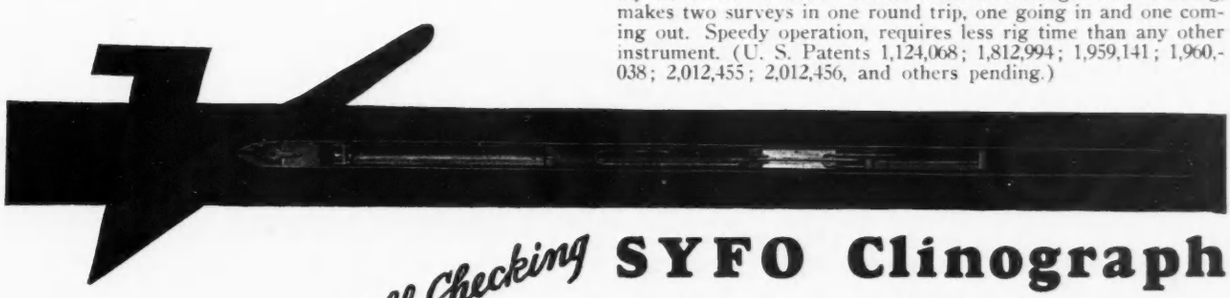

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Deep Possibilities

COAST OFFERS WIDE OPPORTUNITIES FOR DEVELOPING FUTURE OIL RESERVES

By BRAD MILLS, Associate Editor

This article is an abstract of a longer feature that appeared in the January 20, 1936, issue of THE OIL WEEKLY, pages 19 to 22.

THE Texas-Louisiana Gulf Coast offers unusual opportunities for development of oil at record depths. The great thickness of favorable formations, good drilling conditions, and a probably high percentage of producing structures below 8000 and 10,000 feet place the district in a very strong position for testing levels formerly regarded as prohibitive. Few sections of the world are favored with a comparable thickness of sediments that definitely fall in the productive classification, and intensive development in the future will undoubtedly result in the discovery of many fields in areas that have been shallow producers for 20 or 25 years.

The thickness of possible oil-bearing sediments along the Gulf Coast was not fully appreciated until a few years ago, and even now the depth to the basement is the subject of considerable speculation. The fact that the Tertiary beds rapidly thicken toward the coast line gives a thickness that may never be entirely penetrated.

Deep drilling near Galveston and Houston indicates that the Tertiary and Upper Cretaceous beds a short distance from the coast line in this area are more than 19,000 feet thick, while the thickness to the true basement may be more than 21,000 feet.

The existence of a great geosyncline along the coast line is generally recognized by leading geologists who have studied outcropping formations farther north and the thickening tendency toward the south. A geosyncline is nothing more than a great downward flexure of the earth's crust, and is the equivalent of a great valley or trough that has been filled with more recent sediments. It might be classed as the opposite of a great anticline or structural tendency.

During the past five years, geophysical and geological exploration has done much to give acceptable estimates of the normal thickness of formations that should be found at various points along the coastal belt.

Near Lafayette, Louisiana, the thickness of the Recent, Pleistocene, Pliocene and Miocene sediments is about 8000 feet, and the indicated depth to the basement is about 26,000 feet. The thickness of the sediments eastward indicate a depth to the basement of 31,000 feet in the lower Mississippi delta area.

Seismic prospecting has been very helpful in indicating the presence of the great trough or geosyncline along the Gulf Coast, and work along this line points to a sediment thickness of at least 20,000 feet in the Galveston area.

The great basin, depression or trough becomes more pronounced in southeastern Louisiana than in southeastern Texas. The basement on which the possible oil-bearing sediments were deposited apparently was not warped down more than 6000 feet at Galveston; but near the mouth of the Mississippi River this basement or "floor" was warped down 15,000 to 18,000 feet.

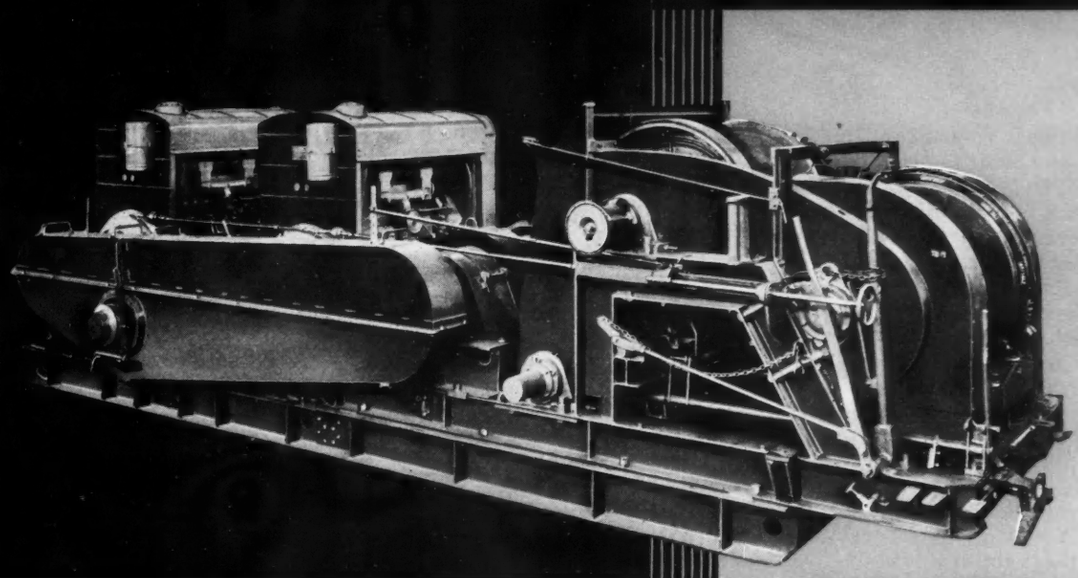
Few comparable geosynclines or troughs exist, and perhaps none has a greater number of formations falling definitely in the promising classification.

The depth to the base of the Claiborne of the Eocene is known to be more than 15,000 feet along the coast line south of Houston. The Wilcox and the Midway, also of the Eocene, undoubtedly are present at this point.

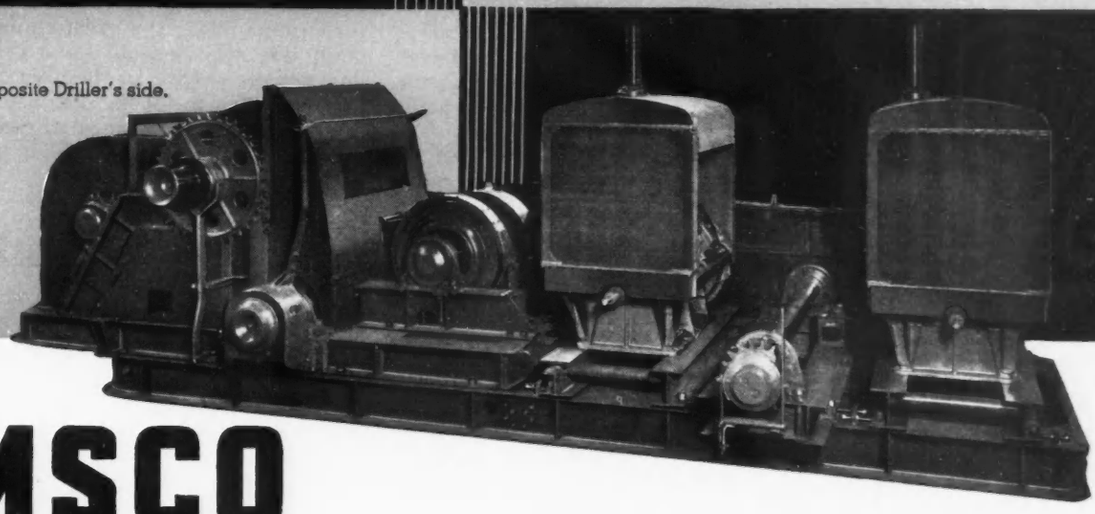
In Iberia Parish the salt plug of a few salt domes reaches almost to the surface, but it is believed that the base of the salt lies at a depth of about 25,000 feet. At this point the indicated depth to the top of the Miocene is 4000 feet; the Oligocene, 8000 feet; the Eocene (Jackson), 11,500; the Upper Cretaceous, 19,500 feet; the Comanche, 22,500 feet; the anhydrite

Estimated Normal Thickness of Formations Along Coast Line Near Galveston, Texas

		Feet	Depth to Base—Feet
Recent, Beaumont and Lissie	Pleistocene	2,000	2,000
Reynosa	Pliocene	500	2,500
Fleming (Legarto) and Oakville	Plio-Miocene	3,200	2,500
Catahoula	Oligocene	500	6,200
Middle Oligocene	Oligocene	1,500	7,700
Discorbis, Heterostegina, Marginulina			
Frio	Oligocene	1,200	8,900
Vicksburg	Oligocene	1,600	10,500
Jackson	Eocene	1,700	12,200
Claiborne:			
Yegua	Eocene	2,200	14,400
Cook Mountain	Eocene	700	15,100
Mt. Selman	Eocene	1,100	16,200
Wilcox	Eocene	2,000	18,200
Midway	Eocene	500	18,700
Navarro, et al	Upper Cret.	1,500	20,200
Comanche	Lower Cret.	1,500	21,700
Anhydrite Series	Lower Cret.	1,000	22,700



Driller's side.



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series of the Lower Comanche and the basement mixture, 25,500 feet; and the true basement complex, 28,000 feet.

A study of geophysical data definitely points to the presence of a record thickness of sediments that had been indicated by straight geologic exploration. Few, if any, definite reflections have been recorded in the Houston area from depths below 20,000 feet, but the deepest classifiable reflections show an unconsolidated condition to a depth of more than 18,000 feet.

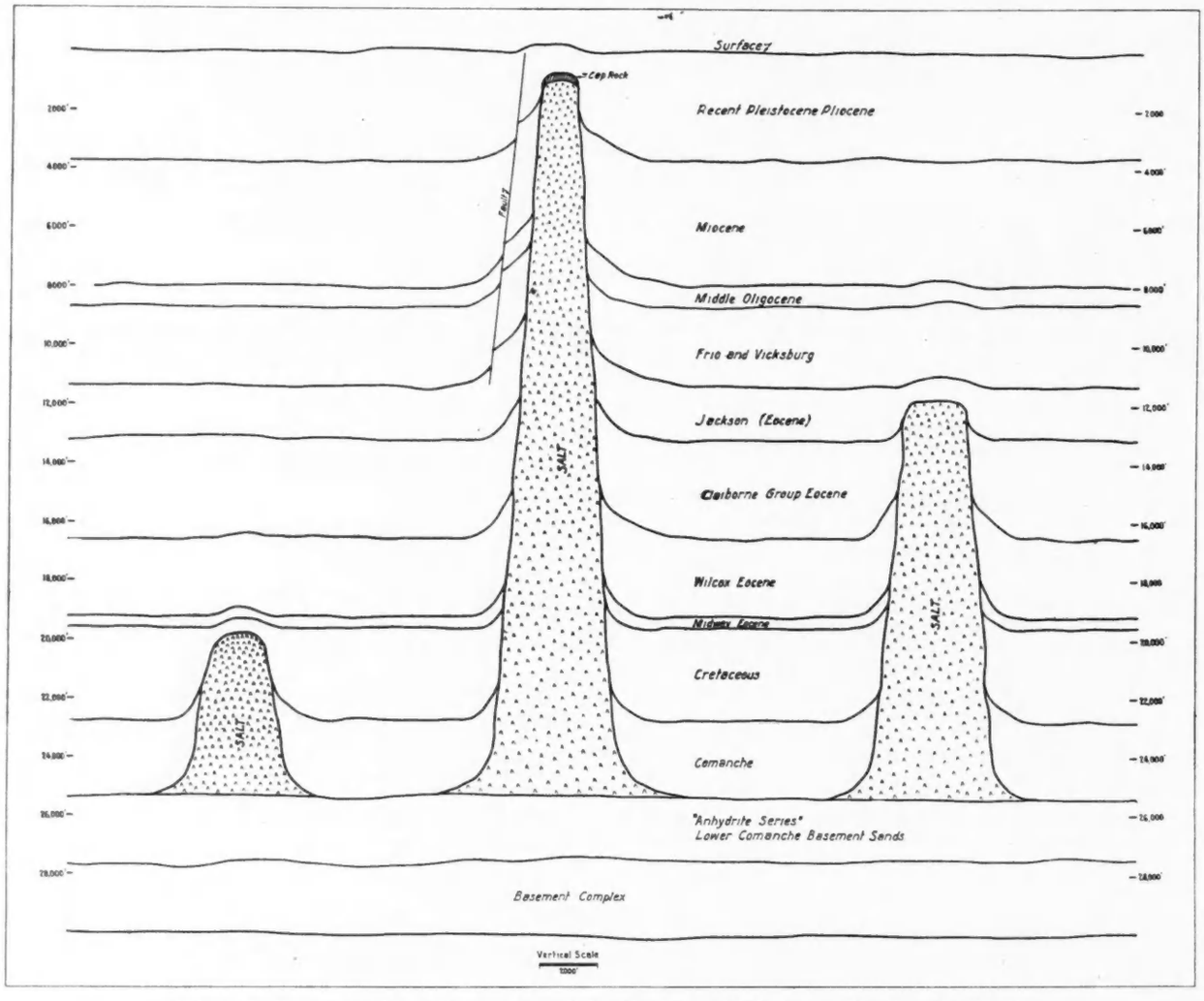
The Frio formation of the Oligocene is the principal objective of operators who hope to develop production around 9000 feet on deep-seated salt domes, but it does not follow that this zone is the last chance at an accessible depth. There are good reasons to believe that the Cockfield, Upper Saline Bayou and Lower Saline Bayou of the Eocene will prove productive when they are reached on favorable structures.

At Iowa the Marginulina formation is found at about 6700 feet, while at Roanoke it is encountered at a depth of about 8700 feet. It is believed that the Frio formation offers good possibilities in such fields as Iowa and Roanoke.

Development along the Gulf Coast has been an interesting progression that involved several types of structures and a number of levels within each area. Prior to each major discovery, few operators would concede it was possible to produce oil under conditions that later prevailed in fields of a new type. It was generally believed by nearly all geologists that no oil would be produced north of the salt dome belt and along the Conroe trend, prior to the discovery of the Raccoon Bend field.

The cost of making a discovery along the Gulf Coast has become increasingly higher, but it does not follow that all discoveries in the future will be made at an unreasonable expenditure. The average cost will rise as new fields are found and as average depths increase, but the importance of future discoveries may offset the larger expenditures involved in the exploratory campaigns.

An entirely new type of structure may be found on the Gulf Coast. The great thickness of sediments, and the plunging and downwarping tendencies of formations filling the great trough or basin along the coast line may account for a type of oil field unlike any yet discovered in the area. Due to the thickening necessary to fill the original basin to the surface, it is possible that a truncated condition has accounted for major oil accumulations in the heart of the salt dome belt.



Theoretical cross section of a portion of the Louisiana Gulf Coast, showing the depth to the basement complex and the types of salt plugs that may have affected the various formations above 25,000 feet.

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Refining Capacity of Gulf Coast Growing

AREA IS EXPECTED TO BECOME THE LARGEST IN THE UNITED STATES

By GEORGE REID, Staff Writer

CONSTRUCTION of petroleum refining facilities in the Texas-Louisiana Gulf Coast is noticeably active at present. Much work has been done in this area during the past year or so, and important expansion and modernization programs are underway now, while proposed work will cause construction activity to extend well into 1937.

Several factors are contributing to the development of this region as an important refinery center, and it bids fair to become the largest United States refining district during the course of the next few years. Of primary importance in the establishment of refining properties in the Gulf Coast is the wide area it serves as a pipe line terminal for crude. Transportation systems from a part of Oklahoma, North Louisiana and Arkansas, and all Texas, New Mexico and South Louisiana terminate on the Gulf of Mexico. Terminal facilities maintained and being erected on the Gulf Coast are serving not only as shipping points for the exportation of crude and its products, but for both coastwise shipment and for barging to the eastern markets via the Mississippi River and its tributaries. Barging of finishing products via the Mississippi has been growing steadily in importance in recent months, and such shipments will continue to increase in the future.

In addition, the stretch of land extending from Florida to the Rio Grande River is becoming more densely populated at a rapid rate as various industrial enterprises are established throughout the region. Much of this market can be served economically by refineries strategically located in the Gulf Coast territory, which location gives the double advantage of being able to ship up the Mississippi River or to foreign countries.

The Texas-Louisiana Gulf Coast refining district now refines approximately 25 percent of the crude run to stills in this country, and its cracking processes produce a little over 25 percent of the cracked gasoline yield for the United States. According to the accompanying list of refineries in the region, with which is given crude oil and cracking unit capacity, the total reported capacity of all plants is 872,250 barrels of crude oil daily, and the total cracking unit capacity is 571,500 barrels per day. This includes plants being constructed. Refiners in the two districts are operating their plants at about 82 percent of reported capacity for the Texas Gulf Coast and 74 percent of reported capacity for the Louisiana Gulf Coast.

The present activity in construction work began with the establishment of a 30,000-barrel refinery (combination, skimming, cracking and reforming unit) at Texas City, by Pan American Refining Corporation, a couple of years ago. This company now is erecting a second unit of the same type and capacity, and a large plant for polymerization of its refinery gases. The new work is being done at a reported cost of over $2,000,000.

Recently, Atlantic Refining Company began preliminary work at Atreco, south of Beaumont on the Beaumont-Port Arthur ship channel, which will result in the erection of a 20,000-barrel combination topping, cracking, reforming and refinery gas polymerization unit, at this point—thus giving the district a new major refining plant of latest modern type. Cost is reported at $3,000,000.

American Petroleum Company at Houston last year completed modernization of its distillation facilities and completely rebuilt its cracking process. Bennett Refining Company, Houston, recently purchased the Phoenix Refining Company plant at Harrisburg, immediately modernizing the distillation unit, and is reported planning erection of a cracking unit sometime soon.

Pipe line facilities in the Rio Grande Valley district that bring crude oil to tidewater brought about erection of a 5000-barrel refinery by Coastal Refineries, Inc., at Port Isabel, near Brownsville, Texas, and the establishment of terminal shipping facilities for both crude and refined products. This refinery was completed recently. At Corpus Christi, available crude oil and shipping facilities erected on the new terminal there last year, permitted Corpus Christi Refining Company to double the capacity of its plant to 2500 barrels through erection of new distillation equipment.

Crown Central Petroleum Corporation, Houston, during the past year has enlarged its power plant and replaced its shell still distillation equipment through erection of a modern two-stage atmospheric-vacuum distillation unit. The company also recently has erected a gasoline recovery plant, a stabilization system, revamped its rerun unit, and modernized its battery of cracking units. Eastern States Petroleum Company, recently exercised its option to purchase,

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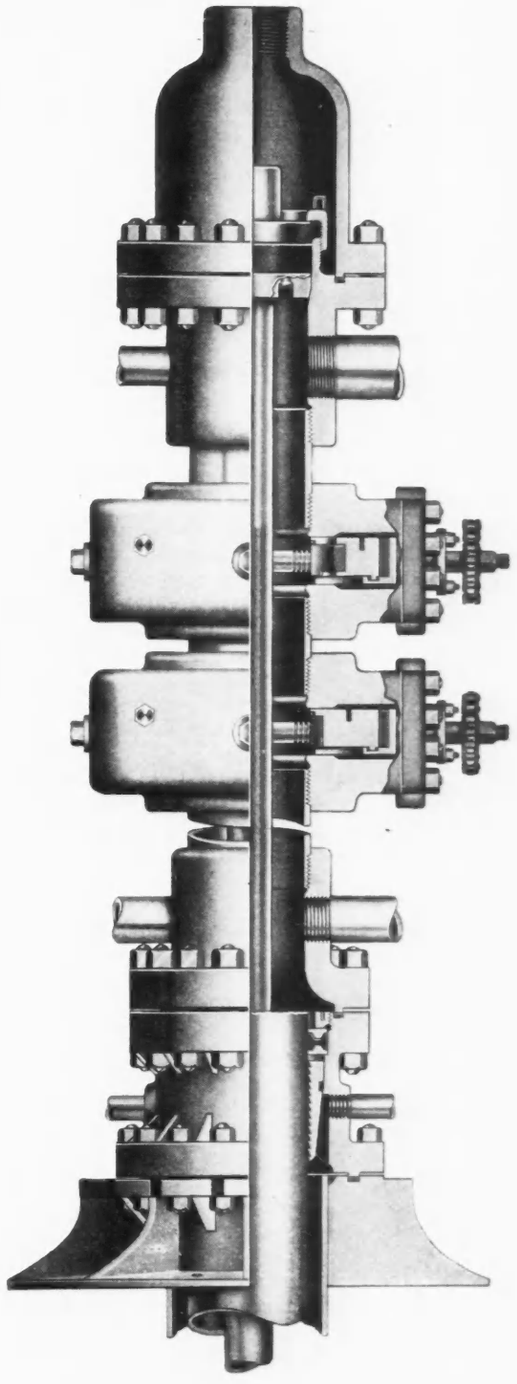

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BREA, CALIFORNIA HOUSTON, TEXAS EXPORT: OIL WELL SUPPLY COMPANY

and acquired the refinery of Deepwater Refineries, Inc., which it had been operating under lease. The company immediately announced plans to erect a two-coil, selective cracking unit and naphtha reformer, to process 10,000 barrels of crude daily. This development gives the area another new and modern refining plant.

Gulf Refining Company at Port Arthur during the past year or so has given most of its attention to facilities for manufacture of lubricating oils and has installed a 5000-barrel solvent refining plant, a 1000-barrel solvent dewaxing plant (acetone-benzol) and a 950-barrel dewaxing plant using methyl-ethyl-ketone. Following this modernization Gulf Refining Company is now revamping several of its tube still installations and converting them to combination skimming and cracking units.

Within a short time Humble Oil & Refining Company will begin construction of a large gas polymerization plant at Baytown. This is the first major construction program to be undertaken by this company in several years, and reports state the program will involve the construction of a large modern combination skimming, cracking and reforming unit. A new eight-inch gasoline pipe line will bring natural gasoline, butane and propane to the Baytown plant. The butanes and propanes will be fractionated out in a new stabilization plant, and then cracked and polymerized in the new "poly" plant. Humble Oil & Refining Company has recently completed enlargement of its sulfur dioxide, solvent refining process at Baytown.

Magnolia Petroleum Company, Beaumont, recently started operating its new 32,000-barrel combination skimming, cracking and reforming unit, which was completed early this year. This company recently placed in operation a 2,000-barrel solvent plant for production of lubricants, and has been mentioned in reports as planning erection of another solvent plant. At its Luling refinery, Magnolia Petroleum Company has completed reconstruction of its furnaces.

Petrotex Company, Texas City, affiliated with Southport Petroleum Company, has let contract for erection of a 5000-barrel cracking unit to operate in conjunction with the revamped plant purchased from Sinclair Refining Company at this point. McCook Oil Company at Houston has leased a small plant from Southern Pacific Railroad, and revamped it for production of fuel oils and lubricants made from selected crudes brought in by tank car. At Bay City, Texas, Phoenix Refining Company recently completed a 1000-barrel plant to process crude from Skelly Oil Company's properties in the nearby Van Vleck field.

Pure Oil Company at its Nederland, Texas, refinery recently let contract for the construction of a new tube still installation which, it is reported, will increase capacity from 30,000 to 50,000 barrels per day. Cost is estimated at $1,000,000. Republic Oil Refining Company at Texas City, has been modernizing through the erection of a new gasoline recovery and stabilizer system, new boilers, and reconstruction of its cracking and distillation furnaces. Additional cracking facilities for this plant have been recently mentioned in reports.

Shell Petroleum Corporation at its Houston plant has been steadily enlarging since construction. The latest additions include a new tube still distillation unit, new additions to the power plant, and at present it is building a 10,000-barrel reforming unit. The company has one of the few Iso-Octane plants in the country, which takes refinery gases, polymerizes them chemically, and this is followed by hydrogenation to produce a motor fuel of 100 octane rating, or practically pure Iso-Octane, for use as airplane fuel. Stone Oil Company at Texas City recently added a tube still for viscosity breaking service.

The Texas Company at Port Arthur has been active in the installation of facilities for lubricating oil manufacture and has erected a 3000-barrel solvent dewaxing process (acetone-benzol) and a 4000-barrel solvent refining installation. The company has been improving its cracking facilities and is reported planning erection of a combination cracking-skimming and reforming unit. At its Port Neches 20,000-barrel asphalt plant this company has recently completed a reconstruction program, modernizing these facilities.

Wood-Moore Corporation at Port Lavaca in the last few weeks completed construction of a new 2000-barrel skimming plant, giving the area new and modern refinery at this point. T. V. P. Corporation (Petroleum Conversion Corp.) at its Texas City plant, has been engaged in test runs on various crudes at its new semi-commercial test plant there.

Texas Gulf Coast Seaboard Refineries

	Crude Oil Capacity	Cracking Capacity	Polymerization
American Petroleum Co., Houston	10,000	5,000	.....
Atlantic Refining Co., Atreco	*20,000	*20,000	*
Bennett Refining Co., Houston	2,500	.....	.....
Coastal Refineries, Inc., Port Isabel	5,000	.....	.....
Corpus Christi Refining Co., Corpus Christi	2,500	1,500	.....
Crown Central Petroleum Corp., Pasadena	15,000	6,000	.....
Eastern States Petroleum Co., Houston	*10,000	*10,000	.....
Gulf Refining Co., Port Arthur	100,000	55,000	.....
Houston Oil Co., Corpus Christi	750	.....	.....
Humble Oil & Refining Co., Baytown	115,000	60,000	*
Humble Oil & Refining Co., Ingleside	15,000	8,000	.....
Magnolia Petroleum Co., Beaumont	80,000	60,000	.....
Magnolia Petroleum Co., Magpetco	†10,000	.....	.....
McCook Oil Co., Houston	500	.....	.....
Pan American Refining Corp., Texas City	30,000	30,000	*
	*30,000	*30,000	.....
Petrotex Co., Texas City	*5,000	*5,000	.....
Phoenix Refining Co., Bay City	1,000	.....	.....
Pure Oil Co., Nederland	30,000	15,000	.....
	*20,000	.....	.....
Republic Oil Refining Co., Texas City	6,000	4,000	.....
Shell Petroleum Corp., Houston	50,000	21,000	Iso-Octane
	.....	*10,000	.....
Sinclair Refining Co., Houston	45,000	45,000	.....
Stone Oil Co., Texas City	8,000	.....	.....
The Texas Co., Houston	20,000	2,000	.....
The Texas Co., Port Arthur	75,000	95,000	.....
The Texas Co., Port Neches	20,000	.....	.....
Wood-Moore Corp., Port Lavaca	2,000	.....	.....
Total	728,250	482,500	

*Building. †Shut-down

Louisiana Gulf Coast Seaboard Refineries

	Crude Oil Capacity	Cracking Capacity	Polymerization
Chalmette Petroleum Corp., New Orleans	7,000	4,000	.....
Pan American Petroleum Corp., Destrehan	16,000	.....	.....
Shell Petroleum Corp., Norco	21,000	10,000	.....
Standard Oil Co. of La., Baton Rouge	100,000	75,000	yes
Total	144,000	89,000	synthetics

Coastal Natural Gasoline Plants

Humble Oil and Refining Co., Conroe, Texas	30,000 gallons
Midland Gasoline Co., Conroe, Texas	25,000 gallons
Paramount Gasoline Co., Pledger, Texas	25,000 gallons
Phillips Petroleum Co., Pasadena, Texas	35,000 stabilizer
Shell Petroleum Corp., Iowa, Louisiana	20,000 gallons

Southwest Texas Coastal Area

Clymore Gasoline Co., Aqua Dulce, Texas	18,000 gallons
Garland Clymore, Refugio, Texas	40,000 gallons
United Gas Public Service Co., Refugio, Texas	30,000 gallons

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Gulf Coast Is of Growing Importance

TWENTY-SEVEN NEW FIELDS AND OTHER DEVELOPMENTS ENHANCE THE DISTRICT

By WARREN L. BAKER, Editor, and
CHARLES LEYENDECKER, Staff Writer

EMPHASIS placed upon the Texas-Louisiana Gulf Coast by publication of "Gulf Coast Engineering and Development Numbers" by THE OIL WEEKLY on March 20, 1933, and July 16, 1934, has been amply justified by succeeding events and developments. The record of the region since publication of each of these issues has been so impressive as to generate confidence that there will be even greater need and popularity for this the third "Gulf Coast Engineering and Development Number." It is a sequel to the two previous issues, and brings forward to date data on fields, domes, and prospects listed in the other numbers, as well as including information on all fields, domes and prospects discovered since the last Gulf Coast book. In addition much new valuable data, particularly on the crude reserve situation and newly discovered prospects, are included.

THE Texas-Louisiana Gulf Coast region has had an impressive advancement since publication of THE OIL WEEKLY's last "Gulf Coast Engineering and Development Number" on July 16, 1934. There have been 27 new oil and gas producing fields and a number of salt domes discovered since that time. A majority of these discoveries were listed in the July 16, 1934, issue as prospects. In addition a vast amount of geophysical activity has taken place, resulting in an even greater increase in the number of prospective producing areas. Pertinent development data are presented in this third Gulf Coast Issue on 397 oil and gas fields, salt domes and prospects, whereas only 273 were so treated 16 months ago. Moreover, the insert map, which is an outstanding feature of each "Gulf Coast Engineering and Development Number," carries over 600 fields, domes and prospects. In explanation, it should be stated here that for the convenience of oil companies the map includes Southwest Texas, while the region treated in detail in this issue is of the Gulf Coast proper (from the Wharton-Matagorda County line on the west to the Mississippi River on the east).

Since the Gulf Coast Issue of 1934, the known recoverable crude oil reserves of the Coastal territory have been augmented substantially, not only by the discovery of 27 new fields, but also by the finding of deeper producing horizons in old fields, by establishment of prolific production in some fields considered previously as of lesser importance, and by important extensions of the productive limits of various fields.

Today, the combined Texas-Louisiana Gulf Coast (not including Southwest Texas) are estimated to have a future recoverable reserve of 2,041,852,033 barrels, whereas the entire United States is estimated at but 12,992,000,000 barrels.[1] Therefore, the Gulf Coast is credited with an increasing share of the nation's known future supply. Moreover, the region can be expected to continue to show a larger percentage of the United State's remaining reserve because of its deep production possibilities and abundance of prospects. These will be discussed in greater detail later in this article.

The Texas Gulf Coast is given the bulk of the region's remaining recoverable reserves. This area is estimated to have 1,769,982,119 barrels of future producible oil. Since it has produced 945,052,881 barrels of oil, its ultimate yield from present fields is estimated at 2,715,035,000 barrels. The Louisiana Coast is expected to produce 271,869,904 barrels in the fu-

[1] "U. S. Crude Reserves Enlarged During 1935" by Warren L. Baker, The Oil Weekly, February 10, 1936, page 19.

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60% HI-VELOCITY GELATIN
2" x 42"—100 lbs. square inch
15 minutes submersion—231 feet

This figure shows how the force of 60% Hi-Velocity Gelatin affected the lead blocks. The explosive maintained its effectiveness throughout.

SEISMOGRAPH EXPLOSIVES

Indicated Crude Oil Reserves

Texas Gulf Coast

Field and County	Amount Proved Acreage	PRODUCTION DATA AS OF JANUARY 1, 1936						ESTIMATED FUTURE PRODUCTION			
		No. Wells	Daily Average	Well Average	Year 1935	Cumulative*	Recovery per Acre	Total Ultimate	Ultimate per Acre†	Remaining Reserve‡	Reserve per Acre†
Ace, Polk	50Ⅱ	1	64	64.	11,670	27,500	550	500,000	10,000	472,500	9,450
Allen, Brazoria	10Ⅱ	1	8	8.	3,429	79,539	7,954	100,000	10,000	20,461	2,046
Anahuac, Chambers	9,800	34	3,435	101.	353,500	353,500	36	300,000,000	30,612	299,646,500	30,576
Arriola, Hardin	100	10	1,010	101.	412,078	1,069,870	10,698	4,000,000	40,000	2,930,130	29,302
Barbers Hill, Chambers	400	176	19,485	110.7	8,526,717	51,314,793	128,286	84,000,000	210,000	32,685,207	81,714
Batson, Hardin	600	158	2,277	14.4	618,131	36,962,831	61,604	45,500,000	75,833	8,537,169	14,229
Big Creek, Ft. Bend	250	22	985	44.7	267,261	8,593,782	34,375	10,500,000	42,000	1,906,218	7,625
Blue Ridge, Ft. Bend	375	44	1,331	30.2	321,828	9,665,873	25,775	12,000,000	32,000	2,334,127	6,225
Boling, Wharton	200	79	836	10.5	236,958	4,773,051	23,865	6,500,000	32,500	1,726,949	8,635
Brenham, Washington	50	21	21	1.	8,481	289,268	5,785	500,000	10,000	210,732	4,215
Buckeye, Matagorda	75	2	190	95.	66,535	518,383	6,911	2,000,000	26,666	1,481,617	19,755
Clay Creek, Washington	350	41	1,182	28.8	357,367	3,245,822	9,273	5,000,000	14,285	1,754,178	5,012
Cleveland, Liberty	350	8	828	103.5	241,320	413,960	1,182	2,500,000	7,142	2,086,040	5,960
Conroe, Montgomery	17,600	896	40,866	45.6	15,494,317	56,875,950	3,232	670,000,000	38,068	613,124,050	34,836
Damon Mound, Brazoria	250	31	459	14.8	197,477	9,013,918	36,055	10,500,000	42,000	1,486,082	5,945
Dickinson, Galveston	10,000	18	1,751	97.2	290,529	303,525	30	50,000,000	5,000	49,696,475	4,970
Esperson, Liberty	400	29	1,127	38.8	438,650	3,550,983	8,070	9,000,000	20,454	5,449,017	12,384
Eureka, Harris	10	.....	.....	.....	4,622	4,622	462	500,000	50,000	495,378	49,538
Fannett, Jefferson	50	14	687	49.	249,291	1,603,624	32,072	3,500,000	70,000	1,896,376	37,928
Goose Creek, Harris	1,000	85	2,539	29.8	1,050,075	74,270,961	74,270	90,000,000	90,000	15,729,039	15,730
Hankamer, Liberty	375	25	1,818	72.7	576,102	3,560,235	9,494	7,500,000	20,000	3,939,765	10,506
Hardin, Liberty	300	1	335	335.	54,476	54,584	182	1,000,000	33,333	945,416	33,151
Hastings, Brazoria	3,840	46	4,458	96.9	616,764	617,500	161	125,000,000	32,552	124,382,500	32,391
High Island, Galveston	200	60	6,888	114.8	2,542,800	10,922,448	54,612	25,500,000	127,500	14,577,552	72,888
Hull, Liberty	725	181	6,160	39.5	2,355,598	79,996,891	110,340	100,000,000	137,931	20,003,109	27,591
Humble, Harris	2,400	269	3,414	12.6	1,267,642	120,150,125	50,062	130,500,000	54,375	10,349,875	4,313
Kittrell, Houston	200	12	1,081	90.	379,841	415,168	2,075	2,500,000	12,500	2,084,832	10,425
Livingston, Polk	2,100	75	2,945	39.2	999,871	2,180,776	1,038	15,750,000	7,500	13,569,224	6,462
Lost Lake, Chambers	85	8	216	27.	85,582	768,947	9,046	1,500,000	17,646	731,053	8,600
Louise, Wharton	900	20	1,520	76.	412,674	600,396	667	5,500,000	6,111	4,899,604	5,444
Manvel, Brazoria	1,920	87	7,122	81.9	2,482,394	4,335,721	2,258	50,000,000	26,041	45,664,279	23,783
Markham, Matagorda	175	26	1,080	41.5	479,092	5,367,896	30,673	8,500,000	48,571	3,132,104	17,898
Mykawa, Harris	300	25	3,780	151.2	720,218	1,153,237	3,844	5,000,000	16,666	3,846,763	12,822
Nash, Harris	120	1	40	40.	14,082	1,635,298	13,627	1,750,000	14,583	114,702	956
North Dayton, Liberty	75	10	175	17.5	57,696	2,205,981	29,412	2,500,000	33,333	294,019	3,921
Old Ocean, Brazoria	100	2	390	195.	104,440	122,008	1,220	1,000,000	10,000	877,992	8,780
Orange, Orange	400	55	717	13.	265,763	31,742,370	79,355	35,000,000	87,500	3,257,630	8,145
Orchard, Ft. Bend	125	12	548	45.6	240,926	2,914,171	23,313	5,000,000	40,000	2,085,829	16,668
Pickett Ridge, Wharton	320	3	356	118.6	46,090	46,094	144	2,000,000	6,250	1,953,906	6,106
Pierce Junction, Harris	320	76	4,183	55.	1,197,454	29,234,781	91,358	40,000,000	125,000	10,765,219	33,642
Pledger, Brazoria	75	.....	.....	.....	82	17,088	227	100,000	1,333	82,912	1,106
Port Neches, Orange	225	17	1,709	100⅝	593,562	3,475,118	15,444	12,000,000	53,333	8,524,882	37,888
Raccoon Bend, Austin	2,445	118	4,709	39.9	1,682,966	15,116,551	6,182	65,000,000	26,585	49,883,449	20,402
Rockland, Jasper	20	3	10	3.3	4,125	35,190	1,759	85,000	4,250	49,810	2,490
San Felipe, Waller	10Ⅱ	1	18	18.	8,188	13,997	1,400	500,000	50,000†	486,003	48,600†
Saratoga, Hardin	575	193	839	4.6	316,380	27,736,282	48,737	30,000,000	52,173	2,263,718	3,446
Sour Lake, Hardin	900	162	1,612	9.9	566,200	77,418,123	86,020	100,000,000	111,111	22,581,887	25,091
South Houston, Harris	475	9	1,053	117.	71,650	71,654	150	5,000,000	10,526	4,928,346	10,375
South Liberty, Liberty	230	51	781	15.3	205,115	14,826,970	64,465	20,000,000	86,956	5,173,030	22,491
Spindle Top, Jefferson	425	155	2,392	15.4	948,670	122,175,009	287,470	140,000,000	329,411	17,824,991	41,941
Splendora, Montgomery	10	.....	.....	.....	320	996	99	250,000	25,000	249,004	24,901
Sugarland, Ft. Bend	1,175	48	5,580	114.1	2,100,138	23,134,876	19,774	90,000,000	76,510	66,865,124	56,736
Thompsons, Ft. Bend	3,880	192	10,653	55.4	4,100,891	18,219,997	4,695	210,000,000	54,123	191,780,003	49,427
Tomball, Harris	8,150	195	6,348	32.5	1,913,250	3,135,840	385	45,000,000	5,521	41,864,160	5,136
Turtle Bay, Chambers	50Ⅱ	1	41	41.	2,250	2,250	45	5,000,000	100,000Ⅱ	4,997,750	99,055Ⅱ
Van Vleck, Matagorda	300	3	255	85.	15,369	26,886	89	20,000,000	66,666	19,973,114	66,577
West Columbia, Brazoria	275	36	2,182	60.6	884,950	78,689,672	286,107	100,000,000	363,636	21,310,328	77,529
	76,160	3,848	164,489	42.8	57,463,847	945,052,881*	12,409	2,715,035,000	45,452	1,769,982,119	24,485

*Abandoned fields not tabulated above have produced 472,596 barrels, raising total Texas Gulf Coast cumulative production to 945,525,477 barrels.

†Per acre ultimate production and per acre reserve supply are based on present field limits, which may be changed by later developments. However, total ultimate recovery in most fields will be found adequate to take care of all but major extensions and new producing sands.

ⅡInsufficiently developed: these figures will be changed by later completions.

‡As of January 1, 1936

All reserve tables compiled by Charles Leyendecker, staff writer, with the assistance of many coastal authorities.

ture from its known fields, and has produced 215,880,096 barrels todate; thereby giving it an ultimate yield of 487,750,000 barrels.

It is extremely important in studying these figures to note that neither area is given any credit for the new discoveries that are certain to be made in the future. All estimated yields are based solely upon known supplies of today.

From a standpoint of future possibilities the Texas-Louisiana Coast ranks among the foremost areas in the world. It is anticipated that few, if any, regions carry oil producing formations as deep and that few, if any, have as many different oil bearing horizons. These factors will bring the territory more and more into the limelight as years pass.

While the known reserves of the Gulf Coast were being increased by new fields and sands, prospective reserves of the area also were being expanded substantially. There has been an unusual amount of geophysical work and numerous prospects have been discovered; as attested by the increase in the number of fields, salt domes and prospects from 273 in July, 1934, to 397 in March, 1936. Moreover, drilling activity during the period confirmed geophysical indications in several instances, and these spots may be expected to eventually become productive.

Furthermore, the potentialities of the Gulf Coast were increased by the advancement in deep drilling technique. Since the Coast is expected to yield oil at greater depths than any sector of the nation, all improvements in deep drilling enhance the possibilities of reaching the lower producing formations. In-

Texas-Louisiana Gulf Coast

Louisiana Gulf Coast

Field and Parish	Amount Proved Acreage	PRODUCTION DATA AS OF JANUARY 1, 1936						FUTURE PRODUCTION ESTIMATES			
		No. Wells	Daily Average	Well Average	Year 1935	Cumulative*	Recovery per Acre	Estimated Ultimate	Ultimate per Acre	Estimated Reserve	Reserve per Acre
Anse Le Butte, St. Martin	45	5	42	8	17,875	810,096	18,002	1,000,000	22,222	189,904	4,220
Black Bayou, Cameron	755	12	2,730	227	1,727,131	2,997,106	3,970	10,000,000	13,245	7,002,894	9,275
Bosco, Acadia and St. Landry	1,500	58	15,565	268	6,336,955	7,397,906	4,932	31,500,000	21,000	24,102,094	16,068
Bayou St. Dennis, Jefferson	750	3	3,251	1,083	516,526	516,526	688	20,000,000	26,666	19,483,474	25,978
Caillou Island, Terrebonne	225	11	9,502	863	2,906,827	4,641,981	20,631	15,000,000	66,666	10,358,019	46,035
Cameron Meadows, Cameron	350	18	4,788	226	1,044,603	1,601,998	4,577	25,000,000	71,428	23,398,002	66,851
Choctaw, Iberville	90	6	1,250	208	275,171	933,184	10,368	5,000,000	55,555	4,066,816	45,187
Darrow, Ascension	275	3	862	287	263,920	267,192	971	15,000,000	54,545	14,732,808	53,574
Dog Lake, Terrebonne	75	1	1,130	1,130	7,450	7,450	99	5,000,000	66,666	4,992,550	66,567
Edgerley, Calcasieu	215	18	229	127	86,570	8,345,998	38,818	10,000,000	46,511	1,654,002	7,693
Jennings, Acadia	250	43	1,605	37	673,606	51,566,991	206,267	60,000,000	240,000	8,433,009	33,733
East Hackberry, Cameron	450	54	7,288	134	2,417,940	12,633,642	28,074	25,000,000	55,555	12,366 358	27,481
Four Isle, Terrebonne	100	1	50	50	220,498	239,759	2,397	3,000,000	30,000	2,760,241	27,603
Garden Island, Plaquemines	100	1	200	200	105,618	105,618	1,056	3,000,000	30,000	2,894,382	28,944
Gillis, Calcasieu	600	28	10,767	384	2,211,784	2,259,876	3,766	15,000,000	25,000	12 740,124	21,234
Gueydan, Vermillion	75	4	200	50	82,855	570,071	7,600	1,500,000	20,000	929,929	12,400
Iowa, Jefferson Davis	1,000	53	18,908	356	7,222,651	16,393,874	16,393	45,000,000	45,000	28,606,126	28,607
Jeanerette, St. Mary	100	1	720	720	7,500	7,500	75	1,000,000	10,000	992,500	9,925
Lake Barre, Terrebonne	425	22	9,252	420	2,947,711	12,052,018	28,357	20,000,000	47,058	7,947,982	18,701
Lake Hermitage, Plaquemines	50	1	200	200	52,426	71,506	1,430	1,000,000	20,000	928,494	18,570
Lake Pelto, Terrebonne	75	1	110	110	115,934	278,378	3,711	1,000,000	13,333	721,622	9,622
Lake Washington, Plaquemines	150	12	1,500	125	500,638	1,203,400	8,022	5,000,000	33,333	3,796,600	25,311
Leeville, La Fourche	325	68	11,855	174	4,934,714	9,685,784	29,802	25,000,000	76,923	15,314,216	47,121
Lockport, Calcasieu	300	26	1,067	41	654,364	13,470,008	44,900	20,000,000	66,666	6,529,992	21,766
New Iberia, Iberia	100	2	3,002	1,501	557,231	693,598	6,936	5,000,000	50,000	4,306,402	43,064
Old Hackberry, Cameron	85	21	360	17	165,215	2,275,457	26,770	4,000,000	47,058	1,724,543	20,288
Port Barre, St. Landry	225	26	3,121	120	1,303,945	5,313,789	23,617	9,500,000	42,222	4,186,211	18,605
Roanoke, Jefferson Davis	700	13	5,934	456	1,624,634	1,863,540	2,662	10,000,000	14,285	8,136,460	11,623
Sorrento, Ascension	75	3	1,008	336	44,488	650,684	8,676	2,000,000	26,666	1,349,316	17,990
Starks, Calcasieu	95	17	480	282	195,412	2,192,996	23,084	4,000,000	42,105	1,807,004	19,021
St. Martinville, St. Martin	100	1	1,055	1,055	33,734	33,734	337	2,000,000	20,000	1,966,266	19,663
Sulphur, Calcasieu	100	49	2,025	41	912,219	8,225,914	82,259	15,000,000	150,000	6,774,086	67,741
Sweet Lake, Cameron	85	6	1,095	182	345,883	2,943,418	34,628	6,500,000	76,470	3,556,582	41,842
Tepetate, Acadia	200	5	1,291	258	126,881	126,881	634	10,000,000	50,000	9,873,119	49,366
Vinton, Calcasieu	275	80	2,103	26	912,227	41,467,782	150,791	50,000,000	181,818	8,532,218	31,027
Welsh, Jefferson Davis	50	17	39	2	15,565	587,326	11,746	750,000	15,000	162,674	3,254
White Castle, Iberville	175	7	861	123	208,725	1,447,115	8,269	6,000,000	34,286	4,552,885	26,017
	10,545	698	125,737	180	41,777,426	215,880,096	20,472	487,750,000	46,254	271,869,904	25,782

dications are that 10,000-foot production can be predicted safely for the Gulf Coast within one or two years. The Lafitte field of Louisiana is the deepest producing spot in the Coast at present, yielding oil from 9600 feet. Several other fields are short of this depth only by a small margin. Since the preceding Gulf Coast Issue, four tests in Louisiana have penetrated beyond the 10,000-foot mark.

The most important field discovered since July, 1934, is the Anahuac field of Chambers County, Texas. This field has a proved area of 9800 acres and is expected to yield 300,000,000 barrels, of which only 353,500 barrels had been produced up to the first of 1936. The Hasting field of Brazoria County, Texas, is another important discovery since the last Gulf Coast Issue. It is estimated to have an ultimate recovery of 125,000,000 barrels from a present proved area of 3840 acres, of which only 617,500 barrels had been produced up to January 1, 1936. Several other important discoveries are not sufficiently developed to a point that additional developments may not materially influence estimated recoveries.

Complete development details on all Gulf Coast fields, salt domes and prospects apppear on following pages.

The names of all producing oil fields and proved salt domes carried in this issue have been checked by the Nomenclature Committee of the Houston Geological Society, and are in accordance with what the committee considers the best usage possible, all things considered.

The Nomenclature Committee wishes to make the following suggestions to Gulf Coast operators:

"The Nomenclature Committee of the Houston Geological Society feels that it is highly desirable that the names of all oil fields and salt domes be suggestive of their location insofar as this is possible. In line with this idea the committee wishes to suggest the following rules for naming fields to operators of the Gulf Coast area:

"1. Whenever possible all oil fields and salt domes should be named after most appropriate railroad station, post office or settlement that can be found in a first-class atlas. When there is a choice between two such names and when the two places are located in different counties or parishes, the name of the place in the same county or parish as the structure should be given preference.

"2. When no appropriate name is available under Paragraph 1, the name of some prominent natural feature of the area should be adopted. The name of a prominent hill or of a lake is to be preferred to the name of a bayou, creek or other stream (unless the stream is very short), inasmuch as a stream name does not suggest a specific location for the field.

"3. Names of landowners or operators should be used only when no adaquate name is available under Paragraph 1 or 2.

"4. It is highly desirable that no name be used which is in use for an oil field of any prominence in another state."

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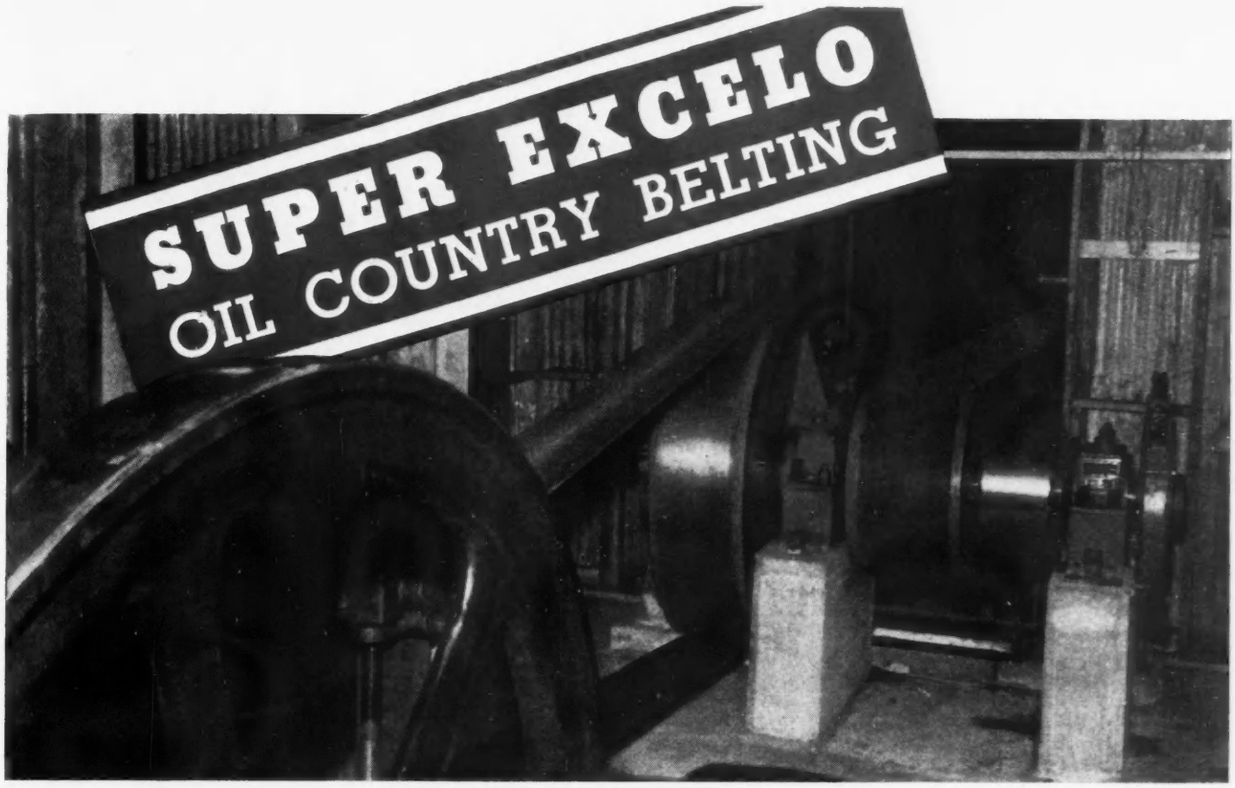

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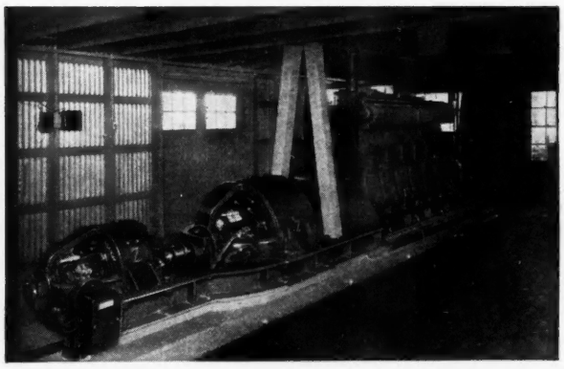

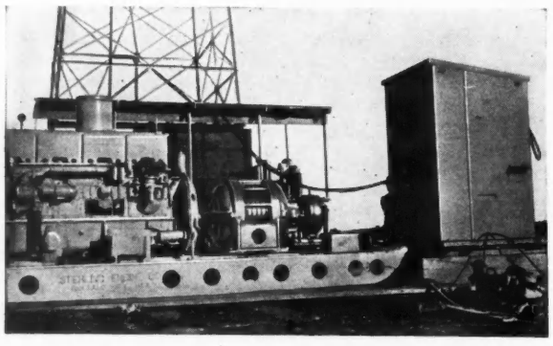

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Salt Domes and Prospects

Geological Data and Development History

Compiled by CHARLES LEYENDECKER of THE OIL WEEKLY Staff

Acknowledgement is made to the many operators and companies who have cooperated in the following compilation by making available their records and in checking the data presented.

TEXAS

AUSTIN COUNTY

CAT SPRINGS*

One mi n Cat Springs, centering around J. DeLeon Survey. **Means of Discovery:** Sun Oil Co. geological work indicated structure 1932. Reflection seismograph did not furnish definite evidence. **Extent of Development:** Sun Oil Co.'s Theuman 1, J. DeLeon Survey, abnd January, 1933, in Yegua, 4734 ft. **Principal Leaseholder:** Sun Oil Co. **Remarks:** See Milheim.

HOT WELLS*

Four mi s Sealy, centering around area where San Felipe Four Leagues Survey is adjoined on south by H. & T. C., Sections 160, 161, 162, 181. **Means of Discovery:** Surface and subsurface geology; hot water from old well; several wildcats in area reported to have had oil showings. The Texas Co. did geophysical work. **Extent of Development:** Several tests, including two relatively deep. Black Hawk Oil Co.'s Lancashire 1, H. & T. C., Section 100, quit at 4250 ft, June, 1929. Gem Oil Co.'s Walter Haedge 1, Lot 1, Block 18, San Felipe Survey, tested Cockfield, quitting at 6230 ft, May, 1934; found formations high. **Principal Leaseholders:** Merry Bros. & Perini, Gem Oil Co., Sun Oil Co., Magnolia Petroleum Co., Gulf Oil Corp., Humble Oil & Refining Co.

INDUSTRY*

Southwest of Industry, centering J. F. Pettus Survey. **Means of Discovery:** Surface geology: **Extent of Development:** I. T. I. O. & Johnson Brother's A. Wangler 1, e of New Ulm, Kuykendall Survey, dry at 4305 ft, in Cockfield, August, 1934. Arkansas Fuel Oil Co.'s Heudner 1, e of New Ulm, R. Stolze Survey, quit at 4005 ft, May, 1935, salt water. J. S. Wheelis' Knolle 1, J. F. Pettus Survey, dry at 3625 ft, September, 1935. **Principal Leaseholders:** Sid Wheelis, Humble Oil*& Refining Co., Magnolia Petroleum Co., Gulf Oil Corp., Arkansas Fuel Oil Co., took 3500 acres in the above area in November, 1930.

KENNEY*

Five mi w of Kenney, centering J. Martin, C. Benton, I. G. Belcher, B. Eaton and J. Cooper Surveys. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1934. **Extent of Development:** Several shallow wells. **Principal Leaseholder:** Shell Petroleum Corp. **Remarks:** S of Kenney, Gem Oil Co. drilled Klump 1, S. F. Austin Survey, 4430 ft, salt water. N of Kenney, Gulf Oil Corp., has 1200 acres which was acquired in July, 1933.

MILLHEIM*

Six mi sw of Millheim, midway between J. S. Wheelis' Whittenburg 1, dry hole, and Quintana Petroleum Co.'s Hillboldt 1, dry hole, centering around the H. & T. C., Section 166. **Means of Discovery:** Surface geology. **Extent of Development.** Undrilled. Two dry holes drilled n and s of this prospect. **Principal Leaseholders:** Humble Oil & Refining Co. (10,000 acres), Gulf Oil Corp. **Remarks:** S of this prospect centering the H. & T. C., Section 177, J. S. Wheelis' Whittenburg 1, quit at 5636 ft, December, 1935. This well was drilled on a torsion balance picture. N of this prospect, Quintana Petroleum Corp.'s Hillboldt 1, M. N. Allen Survey, quit in water sand at 4805 ft. (See Cat Springs).

RACCOON BEND

Eight mi e Bellville, 7 mi sw Hempstead. **Surveys:** W. C. White, Wm. Smithers, M. R. Williams, J. P. Stephenson, T. Bell, Wm. Harvey, Chas. Donoho, J. Bardsley, A. Ives, Austin County; Jared E. Groce, Waller County. **Means of Discovery:** Gas seeps, sulphur water, paraffin dirt, broken surface. **Discovery Well:** Humble-Valley Oil Corp.'s Gutoskey 2, Jan. 15, 1928, 500 bbls, 23 gravity, 3259 ft. Valley Oil Corp.'s Thompson 1 found gas, 1000 ft but was not completed. Humble-Valley Oil Corp.'s Walton 1 was completed as a gas well at 1000 ft, February 1, 1927. **Structure:** Apparently not a regular salt dome but possibly a deep-seated dome, with fault across the dome. **Producing Formations:** Commercial gas production from 1000 ft considered top of Oakville. Main oil production from Jackson (upper Eocene), occurring in Gutoskey sand, Whitsett zone, at 3100-3300 ft, and Grawunder sand, McElroy zone, at 3400-3500 ft. In 1934 oil production established in the Cockfield, upper part Claiborne series, sands between 4016 and 4152 ft. Water level for the Cockfield at minus 3992 ft. The highest well found the Cockfield at minus 3803 ft. The producing level is approximately 200 ft below the top of Cockfield. **Productive Area:** Gutoskey sand embraces about 1000 productive acres. Grawunder sand, about 400 productive acres, lies under the Gutoskey, covering only central portion of field. 1000-ft gas and heavy oil sand originally embraced about 2500 productive acres, but withdrawals have reduced productive area. Cockfield production is found under portions of the C. White, Wm. Harvey and Wm. Smithers surveys. **Extent of Development:** Through 1935, 254 tests, 176 oil, 15 gas, 63 dry. **Deepest Hole:** Humble's Woodley 11-X, Wm. Harvey Survey, quit at 7068 ft February, 1935, in Cook Mountain. Had showings of oil at 7046 to 7061 ft. **Estimated Ultimate Recovery:** 65,000,000 bbls. **Production Through 1935:** 15,116,551 bbls. **Indicated Remaining Reserves:** 49,883,449 barrels. **Daily Production in January, 1936:** Deep sand, 40 wells, 1978 bbls; shallow sand, 78 wells, 2,731 bbls; total 4709 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-inch. **Range of Gravity:** 21-32. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** A modern pressure-maintenance system is used in producing from two of the sands. Gas is piped to Brenham, Hempstead, Prairie View and Navasota.

SOUTH BELLVILLE*

Three mi sw Bellville, centering in nw end of Jas. Cummings Five Leagues Survey. **Means of Discovery:** Geology. **Extent of Development:** Cranfill-Reynolds Co.'s Lewis 1, Cummings Survey, quit at 4514 ft, April, 1933. Cranfill-Reynolds and Atlantic Oil Producing Co.'s Swearengen 1, C. K. Ham Survey, two months later quit at 4540 ft. Tests to around 4000 ft have been drilled also to the east, northwest, and southwest, within several miles of the mentioned wildcats. Deering & Kayser's McClenton 1, se of Bellville, Thos. Bell Survey, A-15, dry at 4864 ft, September, 1935.

BRAZORIA COUNTY

ALGOA*

Four mi sw Algoa, centering H. & T. B. Section 7. **Means of Discovery:** Torsion balance, Embry & Bruner, 1934. **Extent of Development:** Two deep tests, Glenn L. Bruner's (Gillock Petroleum Co.) F. Truska 1, quit at 7874 ft, November, 1934, gas show around 4200 ft. Big Creek Oil Co.'s F. Truska 1-B, dry 6001 ft, May, 1935. **Principal Leaseholder:** Embry & Burner. **Remarks:** 3500-acre block assigned to Big Creek Oil Co.

ALLEN

S. McNeel, J. G. & G. W. McNeel, T. & W. Alley and C. G. Alsberry ½ League surveys. On Bernard River 8 mi n of coast. **Means of Discovery:** Torsion balance, Shell Petroleum Corp., 1925. **Discovery Well:** Shell's Allen Bernard River 1, May 17, 1927, 700 bbls. 31 gravity oil, 5141 ft. **Structure:** Salt dome, top cap rock 822 ft, top salt 1380 ft. **Producing Formations:** Miocene sands, 4346 to 5584 ft. **Productive Area:** About 10 acres. **Extent of Development:** Through 1935, total 34 tests, 5 oil, 29 dry. **Deepest Hole:** Roxana (Shell) Petroleum Corp.'s Poole A-2, abnd in shale, 5960 ft, 1928. **Estimated Ultimate Recovery:** 100,000 bbls. **Production Through 1935:** 79,539 bbls. **Indicated Remaining Reserve:** 20,461 bbls. **Daily Production in January, 1936:** 1 well, 8 bbls. **Oil Outlet:** Barge down Bernard River. **Range of Gravity:** 22.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Mills Bennett Production Co. **Remarks:** Allen Dome has "mushrooming" or "overhanging" cap.

ALVIN*

West of Alvin and six mi s and e of Manvel field, centering J. M. O'Donnell, Section 26. **Means of Discovery:** Torsion balance, Shell Petroleum Corp., Gulf Production Co. and The Texas Co., 1935. Reflection seismograph, Humble Oil & Refining Co., Pure Oil Co., 1934-35. **Principal Leaseholders:** Humble Oil & Refining Co., Pure Oil Co., The Texas Co., Stanolind Oil & Gas Co., Gulf Oil Corp., Magnolia Petroleum Co.

*Prospect. †Salt dome, no production. ‡Gas field.

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ANCHOR*

Centering around the townsite of Anchor, in the J. W. Cloud, Wm. Parker, S. Marsh, Geo. Robinson, J. Bradley and Valderas Surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935; Atlantic Oil Co., The Texas Co., 1934. Humble Oil & Refining Co., 1933-34. Torsion balance, The Texas Co., Stanolind Oil & Gas Co. and Gulf Production Co., 1933. Refraction, Pure Oil Co., 1936. **Extent of Development:** Texas Gulf Producing Co.'s Sparks 1, Wm. Roberts sur, dk. **Principal Leaseholders:** Humble Oil & Refining Co., Sun Oil Co., Magnolia Petroleum Co., Stanolind Oil & Gas Co., Navarro Oil Co., Gulf Oil Corp. **Remarks:** In the Geo. Robinson and J. Bradley Survey, Adams Louisiana Corp. worked with reflection seismograph and took 1600 acres. The above prospect ties in with the Chenango area. (See Chenango prospect).

ANGLETON*

Five mi e of Angleton, centering S. F. Austin, No. 2, and I. T. Tinsley Survey. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Sinclair Prairie Oil Co., Navarro Oil Co., Gulf Oil Corp., Magnolia Petroleum Co., Cullen & West. **Remarks:** Luling Oil & Gas Co. acquired a 4500-acre block around the C. Smith Survey two mi sw of Angleton. Five mi e of Luling block, C. E. Holt drilled Griffith 1, Bradley Survey, to 6010 ft and was dry, April, 1935. From Bonney to Angleton, approximately 12 miles, has received attention of nearly every major oil company operating on the Gulf Coast. Leases in this area sold as high as $75 per acre. See Bonney, Chenango, Anchor prospects.

AUSTIN BAYOU*

Henry Austin Survey, Abstract 10, three mi s Danbury dome. **Means of Discovery:** Torsion balance, Rycade Oil Corp. and Amerada Petroleum Corp., 1930. **Extent of Development:** Rycade and Amerada drilled Rapid City 1, 6248 ft, August 1930. It failed to give encouragement for further drilling. Area was worked later by seismograph by same interests and condemned. Nw of Austin Bayou, W. H. McCarthy assembled a 400-acre block, upon which Pat Rutherford drilled National Life Insurance Co. 1 to 6538 ft and abnd; show of gas in Miocene.

BONNEY*

Adjoins town of Bonney on e, in S. F. Austin, No. 24 and No. 25, W. D. C. Hall and J. W. Hall Surveys. **Means of Discovery:** Reflection seismograph, Barnsdall Oil Co., 1932, Humble Oil & Refining Co., 1931-35. Gulf Production Co. worked n of this prospect with reflection seismograph and torsion balance. Stanolind Oil & Gas Co. also worked in area. **Extent of Development:** Barnsdall Oil Co. and Superior Oil Co. of California's O. D. McCann 1, Hall Survey, dry at 6865 ft, December, 1933.

BRYAN MOUND

Two mi sw Freeport, centering C. Ariola Survey. **Means of Discovery:** Elevation, gas seepage and sulphur water; reflection seismograph, The Texas Co., 1935. **Discovery Well:** The Texas Co.'s Freeport Sulphur Co. 1, 50 bbls. initial through perforations 3425-35 ft, total depth 4544 ft, pb 3969 ft, July, 1935. **Structure:** Salt dome, top cap rock 700 ft, top salt 1136 ft. **Producing Formations:** Miocene sands from 3425 to 3435 ft; sulphur is produced from cap rock. **Productive Area:** Only the discovery well. **Extent of Development:** Through 1935, total 17 tests drilled in search of oil, only the discovery made oil. **Deepest Hole:** Texas Co.'s Freeport Sulphur Co. 2, dry at 4915 ft, February, 1936. The operators have made lcn for Freeport Sulphur 3. **Production Through 1935:** Small amount. **Daily Production in January, 1936:** None. **Oil Outlet:** Two-mile line to loading rack. **Range of Gravity:** 36.6. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** The Texas Co. **Remarks:** Freeport Sulphur Co. mined sulphur since 1914.

CEDAR LANE*

Centers around town of Cedar Lane; in Survey 47 (T. J. Jones); adjacent to Brazoria County line. **Means of Discovery:** Torsion balance, Shell Petroleum Corp., 1928. **Extent of Development:** Undrilled following geophysical work; Union Sulphur Co. previously drilled Estill (Bowie) 1 to 3500 ft, and Danciger drilled Estill (Bowie) 1 to 2050 ft. John Deering's Estill 1, sd 6525 ft, March, 1936. **Remarks:** Although considered fair prospect following early geophysical work, the area did not show up so favorably in later work. The latter part of 1935, Sun Oil Co., Shell Petroleum Corp., The Texas Co., Magnolia Petroleum Co. leased acreage e of this prospect between Cedar Lane and San Bernardo in Brazoria County. Stanolind Oil & Gas Co. worked the area with torsion balance, September, 1935. Magnolia Petroleum Co., Sinclair Prairie Oil Co. have taken leases in sw corner J. Cummings Survey. The Texas Co. has been active in this area, leasing several hundred acres. Strake Petroleum Corp. acquired around 10,000 acres in November, 1934.

CHENANGO*

Centering townsite of Chenango, around the J. Abbott, Wm. Harris, Wm. Parker Surveys. **Means of Discovery:** Reflection seismograph, Atlatl Oil Co., 1935. **Principal Leaseholders:** Gulf Oil Corp., H. G. Frost, Atlatl Oil Co. **Remarks:** 5000 acres assembled by H. G. Frost who assigned half interest to Atlatl Oil Co. and 2100 acres to Gulf Oil Corp.

CLEMENS†

Four mi s Brazoria, R. Cummings, T. Bell, and Jno. McNeel Surveys. **Means of Discovery:** Surface geology; torsion balance, Shell Petroleum Corp. 1925. **Structure:** Salt dome. Top of cap rock 590 ft, salt 1400 ft. **Extent of Development:** Through 1935, total 15 tests, all dry. **Deepest Hole:** Roxana (Shell) Petroleum Corp.'s Pabst 2-A, abnd, October, 1927, 6319 ft. **Principal Leaseholder:** Shell Petroleum Corp.

CLUTE*

J. E. Groce Survey, two mi ne Chute. **Means of Discovery:** Seismograph, Rycade Oil Corp. and Vacuum Oil Co., 1930. **Extent of Development:** Rycade and Vacuum made location for Wisdom 1 in summer of 1930, following seismograph work which suggested presence of a salt dome. The prospect was re-worked by seismograph, however, and since that work failed to show a dome the location abandoned. **Remarks:** Also referred to sometimes as Lake Jackson prospect.

DAMON MOUND

Dome is under town of Damon, Abraham Darst, Jno. P. Mills, and C. P. Patton Surveys. **Means of Discovery:** Elevation, gas seeps, and mineral waters. **Discovery Well:** Texas Exploration Co.'s Wisdom 1, Nov. 15, 1915, 100 bbls. 1953 ft. **Structure:** Salt dome, top cap rock at surface, top salt 529 ft. **Producing Formations:** At 1450 to 3800 ft, in Pliocene, Miocene, Oligocene and Lower Oligocene formations. **Productive Area:** About 250 acres. **Extent of Development:** Through 1935, total 257 tests, 116 oil, 141 dry. **Deepest Hole:** Sinclair-Prairie Oil Co.'s Bryan 31-A, dry at 8112 ft, September, 1933. **Estimated Ultimate Recovery:** 10,500,000 bbls. **Production Through 1935:** 9,013,918 bbls. **Indicated Remaining Reserve:** 1,486,082 bbls. **Daily Production in January, 1936:** 31 wells, 459 bbls. **Oil Outlet:** Sinclair-Prairie Pipe Line Co.'s 8-in to Houston. Humble Pipe Line Co. has a small line from the field to Nash. **Rigs Running January, 1936:** Two. **Range of Gravity:** 21-33. **Principal Leaseholders:** Sinclair-Prairie Oil Co., Layne-Texas Co., Cullen & West, Humble Oil & Refining Co., D. J. Harrison, Gulf Oil Corp., H. Wisdom, Intercoastal Oil Co.

DANBURY

One mi ne of Danbury, H. T. & B. No. 13 and No. 14, S. A. Tewsey, M. Shepard, J. H. Bruner, H. Austin Leagues No. 5 and No. 6 Surveys. **Means of Discovery:** Surface indications; seismograph, Shell Petroleum Corp., 1929. **Discovery Well:** Shell's Blakely-Winston 1, H. T. & B., sec 14, swabbed oil at 1579 ft, November, 1929; deepened to 5221 ft; plugged back, and in June, 1930, swabbed 50 bbls daily, 70 percent 22 gravity oil, 30 percent b.s. and water, from 1559-1579 ft. **Structure:** Salt dome, topped salt 6687 ft. **Producing Formation:** Miocene sand at 1559-1579 ft. Showings oil and gas in Frio formation at 7168 ft. **Productive Area:** About 10 acres. **Extent of Development:** Through 1935, by Shell, and not including some early shallow tests or wildcats apparently not on or around the dome, total 12 tests, one oil, one gas, 10 dry. **Deepest Hole:** Shell's Haury 3, abnd 7495 ft, April, 1935. **Production Through 1935:** 3,612 bbls (field abd). **Daily Production in January, 1936:** None. **Oil Outlet:** Humble Pipe Line Co., 8-in line, runs near the field. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Shell.

DEVILS ELBOW*

Three mi e Brazoria, S. F. Austin 5½ League Survey. **Means of Discovery:** Surface indication in form of pronounced river bend and gas seeps. Also checked geophysically, and McCollum Exploration Co., using seismograph and torsion balance, reported favorably in 1928, although it did not show up definitely as a salt dome. **Extent of Development:** No drilling has been undertaken on geophysical evidence, but Croesus Oil & Gas Co. drilled Jenkins 1 to 3050 ft and Jenkins 2 to 3500 ft.

EAGLE NEST LAKE*

South of Eagle Nest Lake, Austin Survey, three mi ne West Columbia dome. **Means of Discovery:** Surface evidence (gas in water well). Checked by geophysics, including Gulf Production Co. torsion balance in 1931. **Remarks:** Gulf took big block of leases in 1932. Most companies which have done work in area agree this is a favorable prospect.

HALLS BAYOU*

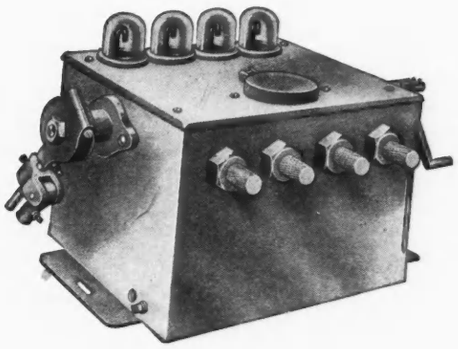
Asa Bringham Survey, nine mi se Alvin. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1928. Seismograph did not show dome. **Extent of Development:** A. H. Parsons et al's J. D. Hughes 1, A. L. D. Lewis Survey, abnd, shale 4254 ft, January, 1933.

HASTINGS

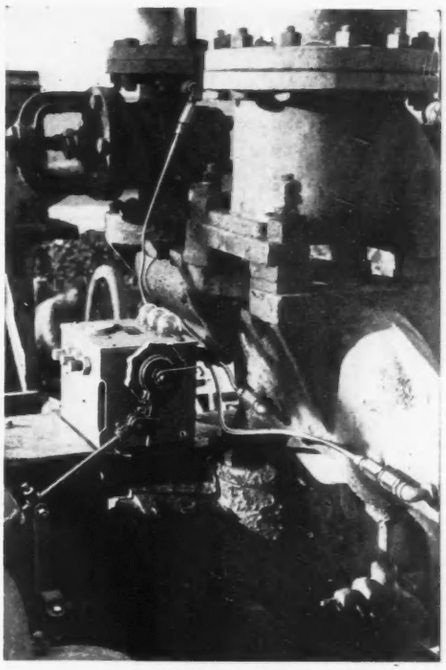
Five mi n Alvin, centering A. C. H. & B., sec 1 and 2, H. & T. B., sec 29, 36, and 37. **Means of Discovery:** Torsion balance, spring of 1934, Stanolind Oil & Gas Co. Later checked by seismograph reflection by the same company. Standard Oil Co. of Kansas reflection seismograph, 1934. **Discovery Well:** Stanolind's J. W. Surface 1, 120 bbls 38 gr oil, 3,000,000 cubic feet gas daily, December 23, 1934. Sands from 5975 to 5985 ft. The well was later carried down to 6003 ft, came in for 240 bbls daily. Due to mechanical difficulties the well was carried down to 6154 ft and tested salt water. It was finally completed at 6118 ft for an oil producer. **Producing Formations:** Gas sand 2930 ft; Lower Marginulina-Frio of the Oligocene; sands from 5526 to 6124 ft. **Productive Area:** About 3840 acres. **Extent of Development:** Through 1935, total 51 tests, 48 oil, one gas, two dry. **Deepest Hole:** Stanolind's Sneed 4, dry at 8992 ft, November, 1935. **Estimated Ultimate Recovery:** 125,000,000 bbls. **Production Through 1935:** 617,500 bbls. **Indicated Remaining Reserve:** 124,382,500 bbls. **Daily Production in January, 1936:** 46 wells, 4458 bbls. **Oil Outlet:** Six-inch line ties into Stanolind 12-in trunk line to Texas City. **Range of Gravity:** 31 to 38 degrees. **Rigs Running January 1, 1936:** Four. **Principal Leaseholders:** Stanolind, Humble Oil & Refining Co. **Remarks:** A gas sand is found at 2930 ft and at

*Prospect. †Salt dome, no production. ‡Gas field.

"STANDARD"



LUBRICATORS



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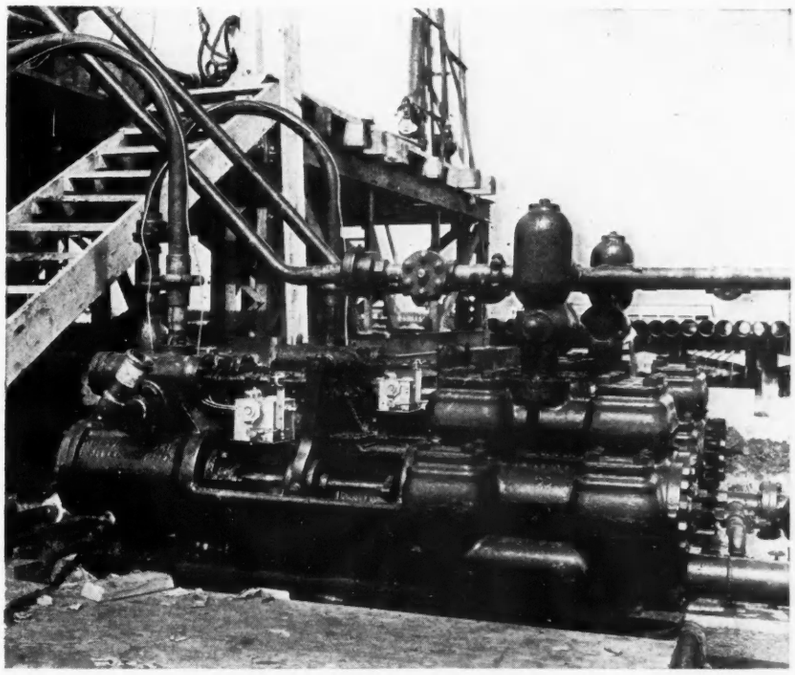

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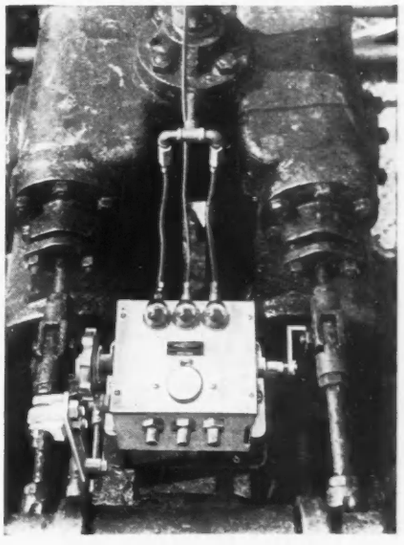

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5945 ft, which is being used for fuel to drill other wells. Water level was found in the discovery well at 6154 ft. Sneed 4 found the level at 6186 to 6195 ft and from 6270 to 6298 ft.

HOSKINS MOUND

Eight mi se Danbury, Henry Austin and J. J. Calvington Surveys. **Means of Discovery:** Surface elevation, gas seeps, and sulphur water. **Discovery Well:** First well in area, drilled by Mound Oil Co. in 1904, yielded gas at 585 ft. **Structure:** Salt dome, top cap rock 623 ft, top salt 1150 ft. **Producing Formations:** Oil from sands around 600 ft, sulphur from cap rock. **Productive Area:** Only a few acres. **Extent of Development:** Through 1935, total 45 tests, six oil, 39 dry. **Production Through 1935:** 31,750 bbls (total). **Daily Production in January, 1936:** None. **Oil Outlet:** 18-in line. **Range of Gravity:** 21.5 degrees. **Rigs Running January 1, 1936:** None. **Remarks:** Mound Oil Co. from 1904 to 1907 drilled 13 wells which during that period produced approximately 30,000 bbls of oil. Commercial sulphur production was started in May, 1925, by Freeport Sulphur Co. on leases in which The Texas Co. owns an interest; and the field continues as strictly a sulphur field.

LIVERPOOL*

North of Liverpool, centering Angier, Bradley, Hall and S. F. Austin 1¾ Leagues. **Means of Discovery:** Refraction seismograph, The Texas Co.; reflection seismograph, Sun Oil Co., Stanolind Oil & Gas Co., 1934-35. Humble Oil & Refining Co. and Pure Oil Co. have worked in the general area with geophysical instruments. **Principal Leaseholders:** Mid-Tex Oil Co., The Texas Co., Gulf Oil Corp. and Sun Oil Co. **Remarks:** Liverpool and Southwest Alvin prospects closely associated.

LOCKWOOD*

Midway between Damon Mound and West Columbia salt domes, Wiley Martin and J. Thompson Surveys. **Means of Discovery:** Gulf Production Co. and Humble Oil & Refining Co. found promising evidence by geophysics about 1932. **Extent of Development:** Gulf Production Co.'s Lockwood 1, Wiley Martin Survey, abnd in water sand 7405 ft, January, 1933. R. R. Osburne's J. L. Jones 1, J. Thompson Survey, abnd location, January, 1936. **Principal Leaseholders:** Gulf Oil Corp. and Humble Oil & Refining Co. have extensive lease-holds. R. R. Osburne acquired 4000 acres, April, 1935.

MANVEL

Two mi ne Manvel in Harry Little, Thos. Spragin, H. & T. B. Sec. 23 and 24, A. C. H. & B. Sec. 91, C. O'Donnell Surveys. **Means of Discovery:** Surface geology; torsion balance, The Texas Co., 1929; seismograph also confirmed a deep dome. **Discovery Well:** The Texas Co.'s Belcher 1, Sept. 9, 1931, 85 bbls 28 gravity oil per hour through 62/64-in choke from sand at 5463-5481 ft. **Structure:** No cap rock or salt encountered; regarded, however, as deep seated salt dome. **Producing Formation:** Oil from Miocene sands at 3871-4152 ft. Gas sand at 3686 ft. From Marginulina zone of middle Oligocene at 5084-5733 ft. Deep test yielded non-commercial gas from McElroy formation (Jackson) at 7450-7590 ft. **Productive Area:** Around 1920 acres. **Extent of Development:** Through 1935, total 131 tests, 102 oil, 6 gas, 23 dry. **Deepest Hole:** The Texas Co.'s C. W. Massey 1, quit at 7957 ft, December, 1934. **Estimated Ultimate Recovery:** 50,000,000 bbls. **Production Through 1935:** 4,335,721 bbls. **Indicated Remaining Reserve:** 45,664,279 bbls. **Daily Production in January, 1936:** 87 wells, 7122 bbls. **Oil Outlet:** The Texas Pipe Line Co. 8-in line Houston ship channel. **Range of Gravity:** 25-30 degrees. **Rigs Running January 1, 1936:** Six. **Principal Leaseholders:** The Texas Co. controls the majority of the acreage. Bowles & Borsedi (farm out of Pure Oil Co.), Turnbull & Irwin, Windsor Oil Co., Uscan Oil Co., Harrison & Abercrombie, Gulf Oil Corp. **Remarks:** Bowles & Borsodi's Morvel 1, n flank test, extended Marginulina production and was the discovery well for this formation on the n side of the field; came in for 18 bbls per hour from sands at 5617 to 5630 ft.

FRANCIS MOORE*

Six mi sw Alvin, centering the Francis Moore Survey. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Pure Oil Co., Humble Oil & Refining Co., Sun Oil Co., 1934-35. **Extent of Development:** Jack Clark et al's Spear 1, dry at 5163 ft, August, 1934; show of oil 4251 to 4254 ft. **Principal Leaseholders:** Humble Oil & Refining Co., Gulf Oil Corp., Sterling Oil & Refining Co., Magnolia Petroleum Co., Stanolind Oil & Gas Co. **Remarks:** North of Liverpool and s of Alvin.

OLD OCEAN

Two mi nw of Sweeney, centering C. Breen Survey. **Means of Discovery:** Reflection seismograph, Harrison & Abercrombie, spring of 1934. **Discovery Well:** Harrison & Abercrombie's Bernard River Land Co. 1, 512 bbls, 22 percent salt water, 8651 ft, November 8, 1934. **Structure:** Regarded as a deep seated salt dome. **Producing Formations:** Frio formation, Lower Oligocene, sands 8634 to 8651 ft. **Productive Area:** Approximately 100 acres. **Extent of Development:** Through 1935, two oil producers. **Deepest Hole:** See discovery well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** 122,008 bbls. **Indicated Remaining Reserve:** 877,992 bbls. **Daily Production in January, 1936:** Two wells, 390 bbls. **Oil Outlet:** Rail. **Range of Gravity:** 60 degrees. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Harrison & Abercrombie. **Remarks:** One of the deepest producing fields in the Texas Gulf Coast.

PEACH POINT*

Between Allen and Stratton Ridge, centering around C. Hugely 1000-acre tract in the S. F. Austin 7½ Leagues. **Means of Discovery:** Old shallow wells drilled on surface indications, had oil and gas showings. Seismograph showed favorably. Detailed reflection seismograph, Pure Oil Co., 1935. **Extent of Development:** Humble Oil & Refining Co. and others drilled shallow wells. No drilling since geophysical surveys. **Principal Leaseholders:** Pure Oil Co., Gulf Oil Corp., Boone Brothers.

*Prospect. †Salt dome, no production. ‡Gas field.

PEARLAND*

Two mi se of Pearland, centering around sw corner W. D C. Hall, T. J. Green Surveys. **Means of Discovery:** Torsion balance, 1928, Humble Oil & Refining Co., The Texas Co., Gulf Oil Corp. Worked again by torsion balance, 1933, Cullen & West. **Extent of Development:** Westlen Petroleum Co.'s Settegast 1, quit at 6297 ft, March, 1934. **Remarks:** See Friendswood.

PLEDGER

Three mi se Pledger, W. Carson, Grey & Moore, D. McNeel Surveys. **Means of Discovery:** Reflection seismograph, Petty Geophysical Engineering Corp., J. P. Hunnicutt, H. H. Stevenson, Pierce Withers, June, 1932. **Discovery Well:** Danciger O&R Co.'s W. S. Hunt 1, December 2, 1932, 200 bbls 58 gravity distillate and 12 million ft gas daily through three quarter-inch choke from 6760-6782 ft. **Structure:** Evidence of salt dome by geophysics, but no cap rock or salt in tests drilled. **Producing Formations:** Sands at 6758-6875 ft in Marginulina zone of middle Oligocene. On the west and sw flanks of the field, Marginulina sands found at 6567 to 6684 ft. **Productive Area:** For oil around 60 acres; for gas about 100 acres. **Extent of Development:** Through 1935, 11 tests, 9 oil-gas wells, 2 dry. **Deepest Hole:** Danciger's W. S. Hunt 2 went to 8061 ft, was pb and completed at 6825 ft, October, 1933. **Estimated Ultimate Recovery:** 100,000 bbls. **Production Through 1935:** 17,008 bbls. **Indicated Remaining Reserve:** 82,912 bbls. **Daily Production in January, 1936:** Only gas. **Outlet:** Danciger Oil & Refining Co. has a gas line to Boling. **Range of Gravity:** 55.8 degrees. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Danciger (2600 acres), Humble Oil & Refining Co. **Remarks:** Indication of sub-surface "high" first found by torsion balance, Rycade Oil Corp., 1925. Rycade took leases, assigned half interest to The Texas Co., and the latter drilled four core tests 1927, dropping leases on account of their indicated negative results. Humble Oil & Refining Co. also did some core drilling in area in 1925.

POOLE RANCH*

Mouth of Bernard River, centering and W. Harding Survey. **Means of Discovery:** Reflection seismograph, Strake Petroleum Corp., 1934. **Extent of Development:** Strake Petroleum Corp.'s Poole 1, woc 1540 ft, March, 1936. **Principal Leaseholder:** Strake Petroleum Corp., 10,000 acres.

RATTLESNAKE MOUND*

Ten mi se Liverpool. Centering around Alfred Swingle, L. G. Bachelder, Jno. Reed, B. B. B. & Co., and adjacent surveys, and extending into Chocolate Bay. **Means of Discovery:** Elevation above surrounding marshes, gas seeps, sulphur water. Several old wildcats reported oil and gas shows. Several companies have worked with geophysics. In 1932 Cockburn Oil Corporation, using torsion balance, found evidence of large, deep salt dome; and then, with reflection seismograph, confirmed that evidence. Amerada Petroleum Corp. checked prospect by reflection seismograph. **Structure:** Geophysical data indicate deep salt dome of exceptionally large area, possibly 15,000 acre or more. **Extent of Development:** Amerada Petroleum Corp.'s Houston Farms Development Co. 1 quit 7663 ft, 1935; gas show 6986 to 7003 ft; trouble with heaving shale. Amerada Petroleum Corp.'s Houston Farms Development Co. 2 dry at 5701 ft, August, 1935. **Principal Leaseholders:** Cockburn Oil Corp. has lease on the 40,000-acre Houston Farms Development Co. ranch under which a large part of the prospect lies. Amerada Petroleum Corp. in 1934 selected 7000 acres out of the 40,000-acre block, and also leased 6000 acres of state submerged land in Chocolate Bay, West Bay, and Halls Lake. **Remarks:** M. V. Bowles acquired 20,000 acres November, 1935, for four months exploratory work.

STRATTON RIDGE

Seven mi se Angleton. **Means of Discovery:** Surface elevation, gas seeps, and sulphur water. **Discovery Well:** Freeport Sulphur Co.'s Dannenbaum 1, May 12, 1922, 150 bbls, 4346 ft. **Structure:** Salt dome; several false caps; top salt around 1300 ft. **Producing Formations:** Sands at 4300-4500 ft. **Productive Area:** About 20 acres. **Extent of Development:** Through 1935, total 76 tests, 3 oil 73 dry. **Deepest Hole:** Rycade Oil Corp. and Amerada Petroleum Corp.'s Seaburn 2, abnd May, 1931, 7624 ft in shale. **Production Through 1935:** 12,200 bbls (field is abnd). **Daily Production in January 1936:** None. **Oil Outlet:** Tank cars. **Range of Gravity:** 32.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Rycade and Amerada jointly; Gulf Oil Corp., Empire Gas & Fuel Co., Freeport Sulphur Co. **Remarks:** In 1930 salt found at a relatively shallow depth off the east flank of the dome as previously outlined gave indication that twin domes exist or that the salt plug is a large saddle type dome.

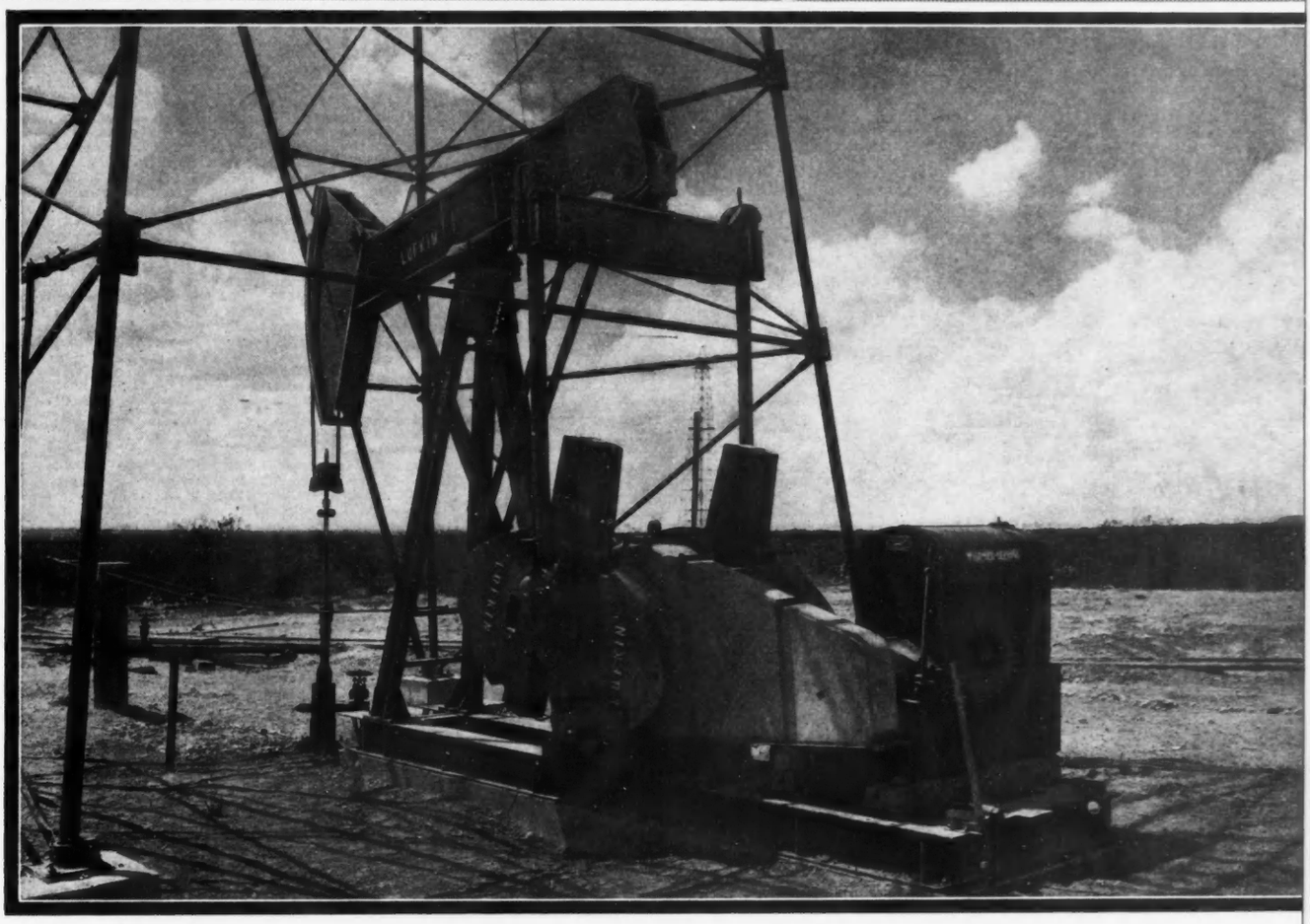
WEST COLUMBIA

Adjoins town of West Columbia on northwest, Geo. Tennille, M. Varner, and J. H. Bell Surveys. **Means of Discovery:** Surface elevation and gas seeps. **Discovery Well:** Tyndall-Wyoming Oil Co.'s Hogg 1, Sept. 7, 1915, 6 bbls, 2900 ft. **Structure:** Salt dome, top cap rock 700 ft, top salt 800 ft. **Producing Formations:** At 600-1300; 2700-3250; 3850-3975; and 5684 ft in Miocene, Oligocene and lower Oligocene formations. **Productive Area:** About 275 acres. **Extent of Development:** Through 1935, total 475 tests, 267 oil, 208 dry **Deepest Hole:** Miramar Corp.'s Hogg 3, M. Varner Survey, quit at 6306 ft, December, 1934. **Estimated Ultimate Recovery:** 100,000,000 bbls. **Production Through 1935:** 78,689,672 bbls. **Indicated Remaining Reserve:** 21,310,328 bbls. **Daily Production in January, 1936:** 36 wells, 2182 bbls. **Oil Outlet:** Humble Pipe Line Co.'s 8-in line; Texas Pipe Line Co.'s 8-in; Sinclair Prairie. **Range of Gravity:** 28 degrees. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Sinclair Prairie Oil Co., Miramar Corp. **Remarks:** Ranks as a leader among Gulf Coast fields in recovery per acre.

WILD PEACH*

East of Old Ocean field and s of West Columbia, centering around the Wild Peach Subdivision in Block 19 of S. F. Austin 7½ Leagues. **Means of Discovery:** Reflection seismograph, Hum-

A TYPICAL GULF COAST "Lufkin"



Magnolia Petroleum Company, Loma Novia pool, Government Wells field, Duval County,
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PUMPING EQUIPMENT

ble Oil & Refining Co., 1935. Stanolind Oil & Gas Co. worked with torsion balance. The Texas Co. has done work in this area. **Principal Leaseholder:** The Texas Co. **Remarks:** In the Flag Pond area n of Wild Peach prospect and between Old Ocean and West Columbia fields Humble Oil & Refining Co. acquired acreage.

CHAMBERS COUNTY

ANAHUAC

Six miles e of Anahuac, centering the H. & T. C., Sections 48 through 72 and J. McGahe Survey. **Means of Discovery:** Torsion balance, reflection seismograph, Humble Oil & Refining Co., 1932 and 1934. Shell Petroleum Corp., Sun Oil Co., Yount-Lee Oil Co., Pure Oil Co., Amerada Petroleum Corp. did geophysical work in the area the latter part of 1934. **Discovery Well:** Humble's A. Middleton 1, March 3, 1935, 5 bbls per hour, large gas volume, 7050 ft; later drilled to 7088 ft, came in for 11 bbls per hour, 37 gravity oil, no salt water. **Structure:** Regarded as a deep seated salt dome, influenced my major faulting; no dome material has been encountered. **Producing Formations:** Frio, Oligocene series; oil and gas sands from 6850 to 7141 ft; gas sands from 5284 to 5286 ft and 6704-76 ft; water level found around 7141 ft. **Productive Area:** Around 9800 acres. **Extent of Development:** Through 1935, total 41 tests, 37 oil, 4 dry. **Deepest Hole:** Gulf Production Co.'s Knowles 1, H. & T. B., Sec. 48, quit at 8749 ft, November, 1935. The test is on the down side of a fault. **Estimated Ultimate Recovery:** 300,000,000 bbls. **Production Through 1935:** 353,500 bbls. **Indicated Remaining Reserve:** 299,646,500 bbls. **Daily Production in January, 1936:** 34 wells, 3435 bbls. **Oil Outlet:** Humble Pipe Line Co. 6-in. **Range of Gravity:** 30-40 degrees. **Rigs Running January 1, 1936:** Six. **Principal Leaseholders:** Humble controls over 80 percent of the field; R. A. Mason and Glenn H. McCarthy, Sun Oil Co., Gulf Oil Corp. **Remarks:** The major discovery in 1935.

BARBERS HILL

Centers around town of Mount Belview. H. Griffith, Wm. Hodge, Wm. Bloodgood and W. D. Smith Surveys. **Means of Discovery:** Pronounced mound at surface, gas seeps, paraffin dirt, and sulphur water. **Discovery Well:** Gulf Production Co.-Humble Oil & Refining Co.'s Chambers County Agricultural Association 4, April 16, 1916, 40 bbls, 1571 ft. **Structure:** Salt dome, top cap rock 350 ft, top salt 1000 ft. **Producing Formations:** Small production from considerable number of oil wells completed in cap rock and Pliocene-Miocene sands at 800 to 2200 ft; Miocene and Middle Oligocene sands at practically all depths between 3450 and 5703 ft; at 5960-6182 ft; half dozen oil wells from Frio at 6320-6690 ft; one well yielded little oil from Lower Oligocene at 7130-7296 ft. **Productive Area:** About 400 acres. **Extent of Development:** Through 1935, total 561 tests, 389 oil, 172 dry. **Deepest Hole:** Yount-Lee Oil Co.'s Chambers County Agricultural Association 4, abnd 8150 ft, September, 1929. **Production Through 1935:** 51,314,793 bbls. **Estimated Ultimate Recovery:** 84,000,000 bbls. **Indicated Remaining Reserve:** 32,685,207 bbls. **Daily Production in January, 1936:** 176 wells, 19,485 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in; Texas Pipe Line Co., 6-in; Sun Pipe Line Co., 6-in; Sinclair Prairie Pipe Line Co., 4-in; Atlantic Pipe Line Co. **Range of Gravity:** 17-34. **Rigs Running January 1, 1936:** Five. **Principal Leaseholders:** Texas Gulf Producing Co., Mills Bennett Production Co., Humble, Gulf Oil Corp., Stanolind Oil & Gas Co., Sun Oil Co., Sinclair Prairie Oil Co., The Texas Co., Republic Production Co., McAlbert Oil Co., Superior Oil Co., D. B. McDaniels, Rio Bravo Oil Co. **Remarks:** On nearly all sides the salt dome flares out at the top, giving a mushroom-like effect, and wells drill through "overhang" of the cap rock and salt, back into sedimentary formations, and are completed as oil producers.

COTTON LAKE*

Centers in and around Cotton Lake, J. Grant, S. Barrow Surveys. **Means of Discovery:** Geophysical work by Salt Dome & Gem Oil Co. and later checked by Humble Oil & Refining Co., Gulf Production Co., The Texas Co., and Stanolind Oil & Gas Co. **Extent of Development:** Salt Dome and Gem Oil Co.'s Lawrence 1 quit at 7005 ft, November, 1935, in Frio. Had oil and gas odor in the Marginulina and 80 feet of sand in Frio which carried salt water. Salt Dome Oil Co.'s Lawrence 2, lcn. **Principal Leaseholders:** Gem Oil Co., Salt Dome Oil Co., Humble Oil & Refining Co., Fohs Oil Co., Gulf Oil Corp., Stanolind Oil & Gas Co., Tide Water Oil Co. **Remarks:** This prospect was the scene of an extensive leasing campaign with acreage and royalty selling at $175 to 3200 per acre. Over half a million dollars was spent in this area by several of the major oil companies. Salt Dome and Gem Oil Co. acquired around 4600 acres on w shore of Galveston Bay, September, 1935.

COVE*

Chas. Tilton and W. H. Hodges Surveys, three mi e Barbers Hill dome. **Means of Discovery:** Seismograph, Pure Oil Co., 1930. **Extent of Development:** Pure Oil Co.'s Kirby 1, Chas. Tilton Survey, abnd in shale, 6669 ft, July, 1930. Slight show of oil around 5920 ft.

DOUBLE GUM ISLAND*

Five mi e Hankamer field, F. W. Plummer Survey No. 28. **Means of Discovery:** Geophysical prospect, Yount-Lee Oil Co., 1932. **Extent of Development:** Yount-Lee Oil Co. Plummer 1, F. W. Plummer Survey No. 28, Chalmers County, quit in shale at 9334 ft early 1933, setting a depth record for the Gulf Coast at that time. E. W. Boyt 1, one mi n of Plummer 1, H. & T. C. Section 17, Liberty County, abnd in lower Jackson at 9863 ft, September, 1933. Latter test was reported to have gas showings around 9500 ft. C. B. Bunte's Simon 1, T. & N. O. Section 33, abnd at 7788 ft in Frio, September, 1935. **Remarks:** Sometimes referred to as Plummer. (See Winnie, Chambers-Jefferson Counties.)

JACKSON RANCH*

Ten mi s Anahuac. Centering around eastern portion Jno. S. Roberts Survey. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Pure Oil Co., 1929. **Extent of Development:** Mills & Jones' Gau 1, ne corner Roberts Survey, reached 5626 ft before quitting November, 1933. Black Gold Petroleum Co.'s Barrow 1, R. Barrow Survey, show oil 7016-20, dr 8103 ft, March 1936. **Remarks:** Sometimes referred to as Double Bayou. Black Gold Petroleum Co. acquired around 3000 acres in this area in September, 1935. Gulf Oil Corp. has acreage in the Roberts and Johnson Surveys. R. A. Stamey leased R. J. Barrow ranch and has made tentative location.

LOST LAKE

Five mi e Barbers Hill dome and 7 mi nw of Anahuac, centering E. H. R. Wallis Survey. **Means of Discovery:** Gas seeps, seismograph, Pure Oil Co., 1927. Dome had been indicated previously as a minimum by Roxana (now Shell) Petroleum Corp., in 1925, but that company condemned the prospect after a 3700-ft test slightly north of the dome failed to give encouragement. **Discovery Well:** Pure Oil Co.'s Mayes 1, March 30, 1929, gas well, 2701 ft. Mayes 2 was discovery oil well, August 1, 1929, flowing 200 bbls 23 gravity oil daily at 2748-82 ft. **Structure:** Salt dome, top cap rock 3272 ft, top salt 5430 ft. This dome has the greatest thickness of cap rock known along the Gulf Coast. **Producing Formations:** Oligocene sands (lenticular) around 2800 ft. **Productive Area:** Around 85 acres. **Extent of Development:** Through 1935, total 30 tests, 11 oil, 1 gas, 18 dry. **Deepest Hole:** Pure's Lost Lake 5, abnd in February, 1931, 7461 ft in cap rock which had been logged first at 5136 ft. **Estimated Ultimate Recovery:** 1,500,000 bbls. **Production Through 1935:** 768,947 bbls. **Indicated Remaining Reserve:** 731,053 bbls. **Daily Production in January, 1936:** 8 wells, 216 bbls. **Oil Outlet:** Pure Pipe Line Co. barges oil out; Humble Pipe Line Co., 6-in line runs close to the field. **Range of Gravity:** 23. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Pure Oil Co.

OYSTER BAYOU*

Five mi w High Island, Robt. Oliver Survey. **Means of Discovery:** Seismograph, Pure Oil Co. and Rycade Oil Corporation, 1929. **Extent of Development:** Pure-Rycade's Jackson 1, Robt. Oliver Survey, abnd October, 1930, 6738 ft, shale; no shows. Superior Oil Co.'s H. Jackson 1, 1½ mi to east and in Levi Barrow Survey, abnd August, 1930, 4382 ft, slight oil show at 3860 ft.

SALT CEDARS*

Thirteen mi s Anahuac field, centering T. & N. O. Sections 15, 16, 17, 18 and 19. 7½ mi w and little n of High Island field. **Means of Discovery:** Torsion balance, The Texas Co., 1928. Geophysics by Humble Oil & Refining Co., 1934. **Extent of Development:** The Texas Co.'s Jackson 1 abnd in shale, 5010 ft, September, 1930. **Principal Leaseholder:** Humble Oil & Refining Co. (10,000 acres). **Remarks:** This prospect and the Oyster Bayou prospect, several mi to the southeast, are regarded by some as really one. Area was worked first by Roxana (Shell) Petroleum Corp. with torsion balance and then with seismograph; and by Petty Geophysical Engineering Corp. with torsion balance. The Texas Co. dropped leases after drilling abovementioned well.

SEABREEZE*

Southwest of Seabreeze, centering J. H. Caverly, J. T. Bruce, E. Stephenson, T. & N. O. Section 128. **Means of Discovery:** Reflection seismograph and torsion balance, Sun Oil Co., 1934. Magnolia Petroleum Co. and Yount-Lee Oil Co. did geophysical work in the general area. **Extent of Development:** Sun Oil Co.'s Hamilton 1, T. & N. O. Section 128, quit in heaving shale at 9055 ft, 1934. Showed gas and fair cut of oil under ether test from 8098 to 8101 ft, also from 8161 to 8184 ft. From 8295 to 8297 ft odor of gas. From 8854 to 8859 ft, slight show of oil. **Principal Leaseholder:** Sun Oil Co. **Remarks:** Sun Oil Co. surrendered its acreage as rentals came due and only kept scattered tracts. (See White Ranch).

SMITHS POINT*

Edward Branch Survey, 15 mi s and w of Anahuac, where land juts into Galveston Bay. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., 1928. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** Sun Oil Co. leased 2000 acres in the Craft Survey, e of Smith's Point, and worked with reflection seismograph in 1934. Humble Oil & Refining Co. worked with reflection seismograph in the Canada Ranch in 1935.

SOUTHEAST GOOSE CREEK*

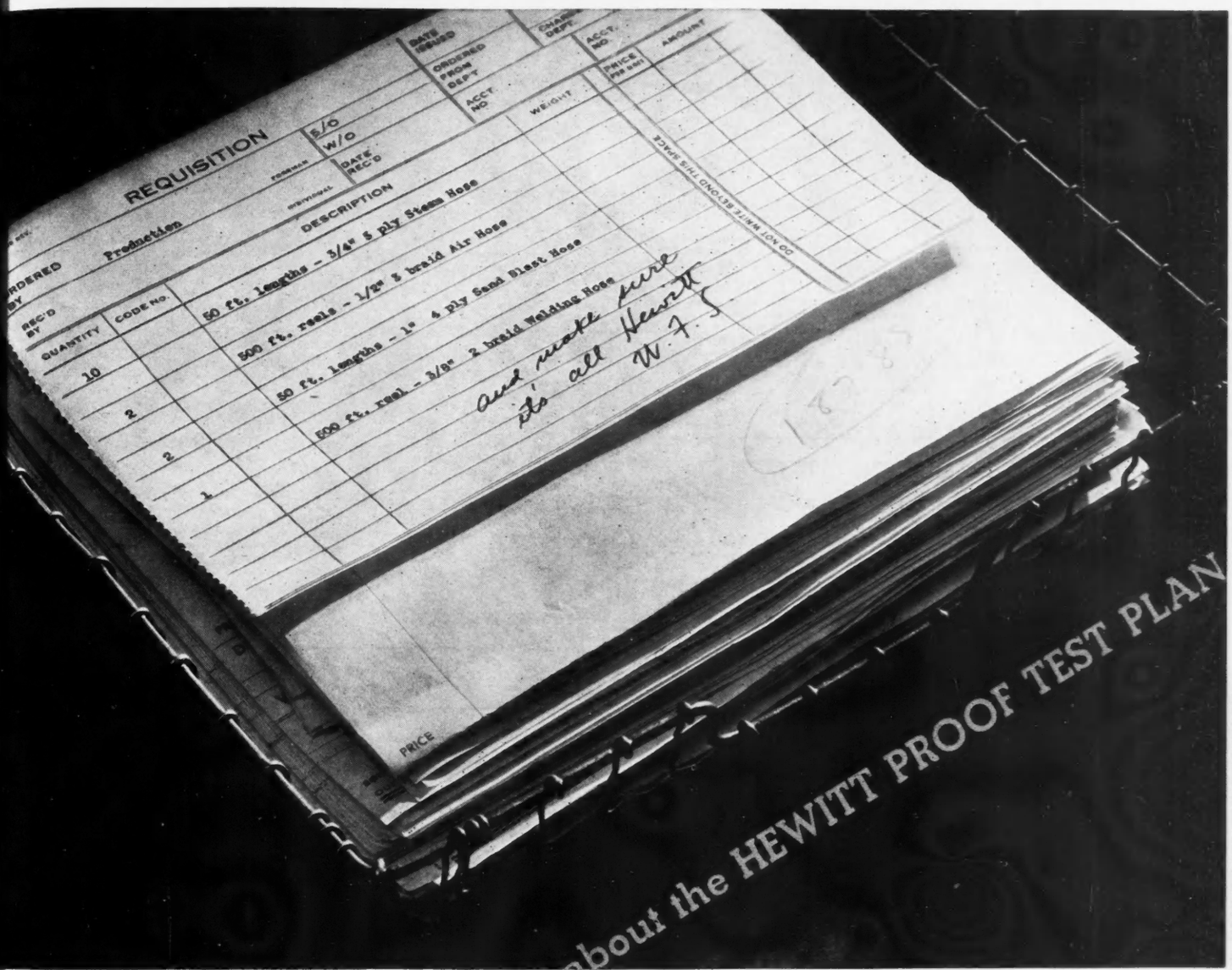
Six mi se of Goose Creek, centering J. Ijams Surveys. **Means of Discovery:** Early surface indications. Torsion balance, Gulf Production Co., 1935. **Extent of Development:** Three dry holes and several core holes. The deepest well being 3335 ft. **Principal Leaseholder:** Gulf Oil Corp.

TURTLE BAY

Centering in and around Turtle Bay, S. Burney, Wallis, M. A. Carrol Surveys. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1933, 1934, 1935; torsion balance, Salt Dome Oil Co., 1935. **Discovery Well:** Stanolind Oil & Gas Co.'s A. D. Middleton 1, S. Burney Survey, December 4, 1935, 27 bbls per hour 32 gravity oil, 6626 ft. **Structure:** Terrace. **Producing Formations:** Lower Marginulina-Frio of the Oligocene, 6594 to 6618 ft. **Productive Area:** About 50 acres. **Extent of Development:** Only the discovery well completed, two test dr. **Deepest Hole:** Stanolind's Cooper 1, w offset to discovery well, dr 6630, pb.

*Prospect. †Salt dome, no production. ‡Gas field.

RECOGNITION


REQUISITION
Production
DESCRIPTION
50 ft. lengths - 3/4" 5 ply Steam Hose
500 ft. reels - 1/2" 2 braid Air Hose
50 ft. lengths - 1" 4 ply Sand Blast Hose
500 ft. reel - 3/8" 2 braid Welding Hose
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6611, comp as oil prod. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 2250 bbls. **Indicated Remaining Reserve:** 4,997,750 bbls. **Daily Production in January, 1936:** 1 well, 41 bbls. **Oil Outlet:** Storage. Operators plan a 6-in line to barge, Galveston Bay. **Range of Gravity:** 32 degrees. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** Stanolind.

WEST COTTON LAKE*

West of Cotton Lake, centering around G. L. Short and T. Sheppard Survey. **Means of Discovery:** Torsion balance, Atlantic Oil Producing Co., 1935. Reflection seismograph, Humble Oil & Refining Co., Amerada Petroleum Corp., 1935. **Principal Leaseholder:** Atlantic Oil Producing Co. acquired 3000 acres in September, 1935. **Remarks:** Five mi nw of the Cotton Lake prospect. Atlantic will drill a test as soon as Salt Dome Oil Co. completes its second well at Cotton Lake.

WHITE RANCH*

South of Seabreeze and n of High Island, centering around the White ranch, J. T. White and Gregg Surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., Magnolia Petroleum Co., 1934. **Extent of Development:** Magnolia Petroleum Co.'s Hebert Trust 1, abnd 9708 ft, 1934; show gas 9405 to 9407 ft. **Principal Leaseholders:** Magnolia Petroleum Co., Humble Oil & Refining Co., Sun Oil Co.. Sun had 35,000 acres and drilled Hamilton 1, (See Seabreeze prospect Jefferson County.)

WINNIE*

South and e of Winnie, centering the Chambers-Jefferson County line around the E. Lopez, B. A. Vacco, T. & N. O. Sections 158 and 159, J. Hogatt, J. M. Duran, F. Valmore Surveys. **Means of Discovery:** Torsion balance, Sun Oil Co., 1934. Glenn H. McCarthy, 1935. Reflection seismograph, Gulf Production Co., 1935. (See Hampshire, Jefferson County.) **Extent of Development:** C. B. Bunte's Simon 1, six mi w of Winnie, T. & N. O. Section 33, quit in salt water sand at 7788 ft, September, 1935, in Frio. Had 370 feet of sand which carried salt water from 7370 to 7741 ft, with a few shale breaks. Top of the salt water sand 7560 ft, and solid sand drilled to 7741 ft. **Principal Leaseholders:** The Texas Co., Gulf Oil Corp., Humble Oil & Refining Co., Mills Bennett Production Co., Glenn H. McCarthy Producing Co., Sun Oil Co.

COLORADO COUNTY

ALLEYTON*

R. Alley and J. Crosky Surveys. **Means of Discovery:** Surface indications checked by seismograph and torsion balance, 1930, by Humble Oil & Refining Co. and Gulf Production Co. **Structure:** Not believed to be a regular salt dome, but considered to have possibilities of being a folded type structure, like Raccoon Bend, 25 mi northeast. It is along Pettus-Raccoon Bend-Conroe trend. **Extent of Development:** Rich Oil Corp. drilled a 1350-ft well one mi e Alleyton, and two tests 2½ mi w Alleyton, one of latter to 2825 ft. In August, 1930, Gulf-Humble-Penn abnd Hugh Wilson 1, 1½ mi se Alleyton, at 4701 ft, having had gas show around 4200 ft. A few miles north of the above tests, McCulloch Oil Co.'s Kansteiner 1, Leander Beason Survey, quit at 4702 ft, August, 1933. E of Rich Oil Corp.'s abnd hole, Mid-Continent Oil Co.'s B. Scherz, J. Cummings Survey, was dry in Cockfield at 4004 ft, 1935.

ALTAIR*

Immediately s of Altair, in C. Winfree, W. J. Jones, G. Looney, Whiting-Osborne Surveys. **Means of Discovery:** Surface evidence. Marland Oil Co. seismograph used in 1925; Humble Oil & Refining Co. and Gulf Production Co. torsion balance later. Also Humble core tested after surface work. **Structure:** Structure rather than salt dome type prospect. Is along Conroe-Raccoon Bend-Pettus trend. **Extent of Development:** Pilot Oil Co.'s Tait 1, Cook & Dewees Survey, 1½ mi n Altair, abnd 5025 ft, March, 1933. Neuhaus et al's M. C. Barnett 1, Obid K. Winn Survey, quit at 5250 ft, February, 1933. Previously Humble Oil & Refining Co. did extensive core drilling, mostly to south of Altair, but including some tests to the north. **Remarks:** Nw of Altair Sun Oil Co. acquired a 5400-acre block se of Glidden in October, 1932.

EAGLE LAKE*

Five mi n Eagle Lake, centering around the J. Dugat Survey. **Means of Discovery:** Torsion balance, Union Central Oil Co., 1933-34, Humble Oil & Refining Co., 1933. Reflection seismograph, Humble Oil & Refining Co., Union Central Oil Co., 1933. **Principal Leaseholder:** Humble Oil & Refining Co.

GARWOOD

I. & G. N., Sections 42, 43, 44, 45, 47, 48; 8 mi w Garwood. **Means of Discovery:** Surface indications, 1928; torsion balance and magnetometer, Coyle-Concord Oil Co. later. **Discovery Well:** Coyle-Concord's Nelson 1, Section 43, July 17, 1932, 80,000,000 cubic foot gas well, spray of high gravity oil, from sand at 4021-4052 ft. Had closed in pressure of 1600 pounds. Later was drilled to the Upper Saline Bayou and abnd at 6194 ft, 1934. Logging device showed a gas sand at 4100 ft, oil sand at 4200 ft. The best sand was found from 4375 to 4410 ft. A gas sand was found at 6167 ft. **Structure:** Believed very deep seated salt dome, although no cap rocks or salt has been reached. **Producing Formations:** Frio sand, lower Oligocene, at 4021-4052 ft in discovery well. Cockfield at 6140-6203 ft in Plymouth Oil Co.'s F. L. Ream 1, Section 47, only other productive well in field, having yielded 1500 bbls 43 gravity oil before ruined by salt water. **Productive Area:** Only a few acres. The two productive wells indicated above were about 1½ miles apart, but tests between them have proved unproductive. **Extent of Development:** Through 1935, four core tests and then total 10 deep tests, 2 oil-gas, 8 dry. **Deepest Hole:** Coyle-Concord Oil Co. and Humble Oil & Refining Co.'s Jno. R. McLane 1, dry at 6766 ft, June, 1933. **Production Through 1935:** 2000 bbls (total). **Daily Production in January, 1936:** None. **Oil Outlet:** Trucks. **Range of Gravity:** 58 degrees. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Coyle-Concord acquired 20,000-acre block in 1928 on strength of surface indications; later assigned 4700 acres to Plymouth Oil Co.; and late in 1932 Humble acquired an undivided half interest in the remaining 16,700 acres of the block. **Remarks:** Some times referred to as Coyle.

NORTHEAST ALLEYTON*

Between Alleyton and Cat Springs, near town of Bernardo, centering J. W. Martin, John Hennecke, H. White, Thomas Boatwright Surveys. **Means of Discovery:** Surface geology; also checked by geophysical instruments about 1929. **Structure:** Indicated to be "Conroe trend" type structure. Located along that trend. **Extent of Development:** C. B. Bunte and Shell Petroleum Corp.'s R. Matuska 1, Jno. Hennecke Survey, abnd in shale at 4710 ft in October, 1932; no showings. Over half-dozen shallow tests have been drilled by Shell, The Texas Co. and Humble Oil & Refining Co. Transtate Oil Co.'s H. Witte 1, two mi s of Bernardo, dry at 5010 ft, November, 1935.

NORTHEAST WEIMAR*

Five mi ne Weimar, centering in J. Petty, J. Duty, F. Pettus and Henry Austin Surveys. **Means of Discovery:** Surface geology; geophysics, 1933. **Extent of Development:** Weimar Development Co.'s H. T. Brandt 1 near center Freeman Pettus Survey, quit at 6112 ft, August, 1933, in shale; reported slight gas shows below 4000 ft. Colorado Corp.'s F. J. Janecke 1, Henry Austin Survey, quit at 4560 ft, December, 1933; gas show 3500 ft. Colorado Corp.'s G. S. Turner 1, across Colorado River, and in Fayette County, in Jno Petty Survey, quit at 4520 ft, November, 1933. **Principal Leaseholders:** Interests which controlled Weimar Development Co. and Colorado Corp. assembled 30,000-acre lease block.

RAVER*

West of Garwood, centering the B. B. B. & C. Section 1. **Means of Discovery:** Torsion balance, The Texas Co., United Gas Co., 1934; Shell Petroleum Corp., 1933. **Extent of Development:** Danciger Oil & Refining Co.'s Raver 1, drilled to 6337 ft, showed salt water sands in the Upper Saline Bayou. **Principal Leaseholder:** Danciger Oil & Refining Co. has leases running to 1942.

ROCK ISLAND*

One and one quarter-mi southeast of Rock Island, centering around the I. & G. N. Section 33. **Means of Discovery:** Torsion balance, Gulf Production Co., 1934; topographical high. **Extent of Development:** Quintana Oil Co.'s Olmstead 1, dry at 5400 ft, September, 1934. Gulf Production Co.'s A. R. Milentz 1, quit at 5550 ft, May, 1935. **Principal Leaseholders:** Gulf Oil Corp., Quintana Oil Co.

FORT BEND COUNTY

ARCOLA*

Between Thompsons and Arcola and w of Manvel, centering around the T. Barnett, David Fitzgerald, H. & T. B. No. 69, Surveys. **Means of Discovery:** Torsion balance, pendulum and reflection seismograph, Gulf Production Co., 1934. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co., Humble Oil & Refining Co. **Remarks:** Gulf Oil Corp., has approximately 9200 acres in the area which is surrounded by Thompsons, Blue Ridge and Manvel oil fields. (See South Fresno prospect).

BEASLEY*

Three mi w Rosenberg, Lester E. Cross Survey 20. **Means of Discovery:** Indicated by torsion balance of Meyer & SoRelle for Gulf Production Co., 1929, showing up as a minimum; also indicated by Humble Oil & Refining Co., torsion balance. This proved an anomaly that did not show up through seismograph work. **Extent of Development:** Humble's Miller 1, abnd in shale, 5325 ft, 1929. Vico Oil Co.'s Darst 1, two mi w of Beasley, E. Powell Survey, quit at 6217 ft, December, 1934. **Remarks:** Between Beasley and Needville, Shummway & Gilbert have block of 4000 acres centering H. & T. C. Sections 79 and 84. Amerada Petroleum Corp. has 5000 acres se of Beasley around I. & G. N. Section 3. Sw of the Beasley prospect and centering around the Leech Survey, a 3000-acre block was dropped. The block has been worked by Humble Oil & Refining Co., Stanolind Oil & Gas Co., Magnolia Petroleum Co. with torsion balance and reflection seismograph.

BIG CREEK

Six mi se Rosenberg, Barnabas Wickson and Michael Young Surveys. **Means of Discovery:** Gas seeps and sulphur water. **Discovery Well:** Gulf Production Co.'s Wheat 1, May 10, 1922, 150 bbls, 580 ft. **Structure:** Salt dome, top cap rock 450 ft, top salt 650 ft **Production Formation:** Middle Oligocene sands around 800 ft and Lower Oligocene sands at 2700 to 4200 ft. **Productive Area:** Around 250 acres. **Extent of Development:** Through 1935, total 124 tests, 66 oil, 58 dry. **Deepest Hole:** C. R. & G. Drilling Co.'s Wheat 1, quit in salt at 5885 ft, April, 1934. **Estimated Ultimate Recovery:** 10,500,000 bbls. **Production Through 1935:** 8,593,782 bbls. **Indicated Remaining Reserve:** 1,906,218 bbls. **Daily Production in January, 1936:** 22 wells, 985 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 20-24. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Gulf Oil

*Prospect. †Salt dome, no production. ‡Gas field.

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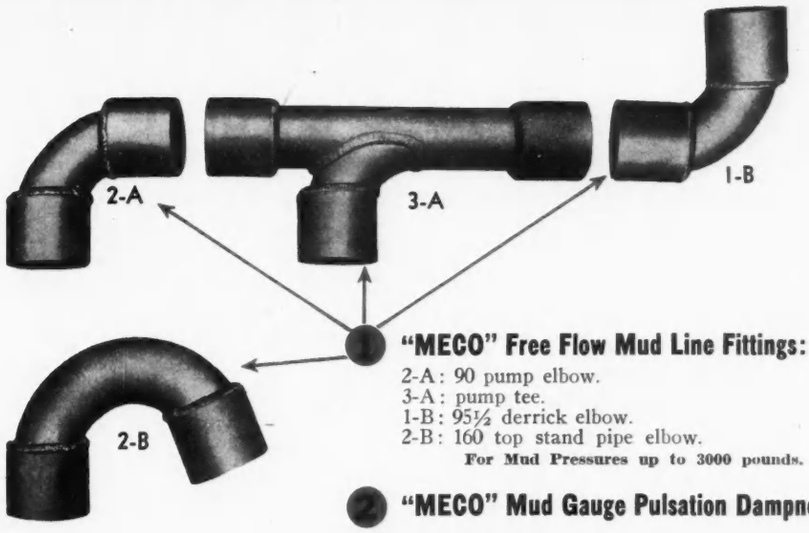

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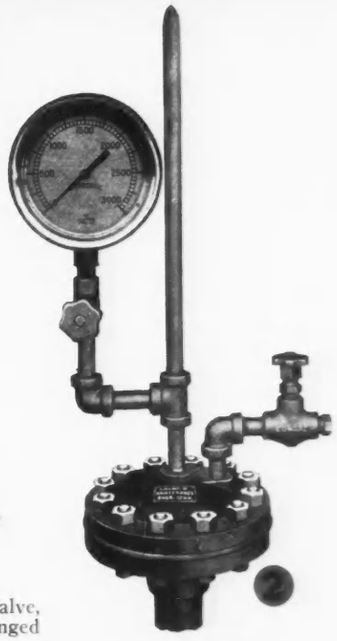

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Corp., Navarro Oil Co., Benedum Trees Oil Co., The Texas Co., Glenn H. McCarthy. **Remarks:** Among last salt domes found before advent of geophysics.

BLUE RIDGE

Three mi se Missouri City; H. Shropshire, Thos. Habermacher, E. Drew, J. Poitevent No. 3, and Jno. Lafayette Surveys. **Means of Discovery:** Elevation and gas seeps. **Discovery Well:** Gulf Production Co.'s Blakely C-2, April 4, 1919, 1200 bbls, 2705 ft. **Structure:** Salt dome, top cap rock 143 ft, top salt 300 ft. **Producing Formations:** Miocene and Oligocene sands at 2000 to 4650 ft. **Productive Area:** About 375 acres. **Extent of Development:** Through 1935, 297 tests, 171 oil, 126 dry. **Deepest Hole:** Sinclair Oil & Gas Co.'s Blakely 1, abnd in salt water at 6189 ft, July, 1930. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through 1935:** 9,665,873 bbls. **Indicated Remaining Reserve:** 2,334,127 bbls. **Daily Production in January, 1936:** 44 wells, 1331 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Range of Gravity:** 21-37.9. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp., The Texas Co., Sinclair Prairie Oil Co., Navarro Oil Co., San Jacinto Oil Co., Texas Gulf Producing Co., J. S. Abercrombie, H. R. Cullen, Fort Bend Oil Co., Watts Bros., Cunningham Production Co., Moody Corp., Tran State Oil Co., Mills Bennett Production Co.

FRESNO*

Near town of Fresno, C. Heywood, Thomas Gleason and M. Escariera Surveys. **Means of Discovery:** Torsion balance, The Texas Co., 1930. Also others obtained favorable results with torsion balance and magnetometer. **Extent of Development:** The Texas Co.'s J. H. Murdock 1, Chas. Heywood Survey, Brazoria County, abnd January, 1931, in sandy shale at 7556 ft. John Deering and Benedum-Trees Oil Co.'s Westenfield 1, M. Escalera Survey, Fort Bend County, abnd February, 1933, in shale at 6230 ft. Fresno Petroleum Co.'s Wood 1, Thomas Gleason Survey, Fort Bend County, quit at 5082 ft, late 1933. Turnbull & Irwin's Allison 1, H. & T. B. Section 79, quit at 6050 ft, in Marginulina, May, 1935. **Remarks:** Although torsion balance and magnetometer results were such as to induce drilling, some companies, using seismograph, failed to verify presence of a dome.

FULSHER*

South and west of Katy, centering around A. G. Shaples Survey. **Means of Discovery:** Torsion balance, Gulf Production Co., 1929, The Texas Co., 1934. Reflection seismograph, The Texas Co., 1934, Humble Oil & Refining Co., Amerada Petroleum Corp. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Amerada Petroleum Corp., Sun Oil Co., Sinclair Prairie Oil Co.

HARLEM-CLODINE*

Northwest of Sugarland, and n of Richmond, centering M. M. Battle, A. Hodge, J. S. Cartwright, Harlem Prison Farms, I. & G. N. No. 1, Jas. Knight, S. Isaacs, White, and W. Andrews Surveys. **Means of Discovery:** Indication of a salt dome given by Gulf Production Co. torsion balance in 1929; also indicated later with detailed seismograph work. Torsion balance, Turnbull & Irwin, 1934, Benedum-Trees Oil Co., Gulf Production Co., The Texas Co. and J. I. Sloan, 1934. Reflection seismograph, Independent Exploration Co., 1935; Amerada Petroleum Corp.,, The Texas Co., 1934. **Extent of Development:** Gulf Production Co. drilled Brazos Valley Irrigation Co. 1, Jno. Frederick Survey, quit at 6065 ft, 1929; No. 2, I. & G. N. Survey, Section A, quit at 4617 ft, 1930. Three mi sw, in Samuel Isaacs Survey, Island Lake Oil Co.'s White 1, quit at 3300 ft. Phillips Petroleum Co.'s A. E. Holmes 1, quit in Diboll, lower Jackson, at 7015 ft, April, 1934, and was regarded as a high well, although no oil or gas showings were reported. Turnbull & Irwin's Herman Hospital 1, J. S. Cartwright Survey, abnd at 6001 ft, March, 1935. Texas Gulf Producing Co.'s Winston 1, S. Isaacs Survey, s of Phillip's Holmes 1, quit at 7697 ft, November, 1935, in Upper Saline Bayou. Salt water sand with odor of oil from 7663 to 7675 ft. **Principal Leaseholders:** Turnbull & Irwin, General Crude Oil Co., Harrison & Abercrombie Oil Co., Sun Oil Co., Magnolia Petroleum Co., Humble Oil & Refining Co., Gulf Oil Corp., Phillips Petroleum Co., Meyer & SoRelle, C. B. Bunte and J. I. Sloan. **Remarks:** The Gulf Coast issue 1934, carried part of this prospect as Clodine.

LOCHRIDGE*

Near Lochridge, five mi sw Sandy Point, Andrew Robinson, Edward R. Bradley, and J. W. Hall Surveys, Brazoria County; and E. Robertson Survey, Fort Bend County. **Means of Discovery:** Torsion balance, first by Gulf Production Co., 1929; later by Quintana Petroleum Co. and Humble Oil & Refining Co. **Structure:** Indicated by drilling as well as geophysics to be deep seated salt dome. **Extent of Development:** Ten tests, five in Brazoria and five in Fort Bend. All unproductive commercially, but all proved higher than normal structurally and several had promising showings. Gulf Production Co.'s American National 1, Bradley Survey, quit in shale at 6695 ft, January, 1933. W. D. Southerland et al's G. W. Chapman 1, Robinson Survey, had oil shows at 3280 and 5225 ft before quitting at 5787 ft, February, 1933. Quintana Petroleum Co. and Humble Oil & Refining Co. jointly drilled three tests on Fort Bend County side of Brazos River, in Robertson Survey. Great Southern 1 set casing to test Marginulina at 6285-6320 ft, showed gas pressure as high as 1250 pounds and yielded little oil, but failed to produce commercially, and drilled deeper, quitting at 8128 ft, December, 1933. The same operators' G. L. Wood et al 1 quit at 6300 ft, January, 1934; and Wood 2 showed little oil and gas at 6305 ft, abnd 6377 ft, March, 1934. Turnbull & Irwin's Sutherland Buck 1, A. Robinson Survey, cored salt water sand in Marginulina from 6340 to 6345 ft, and quit at 6510 ft, December, 1934. Quintana Petroleum Co.'s G. L. Wood 1, Alberry Sur-

*Prospect. †Salt dome, no production. ‡Gas field.

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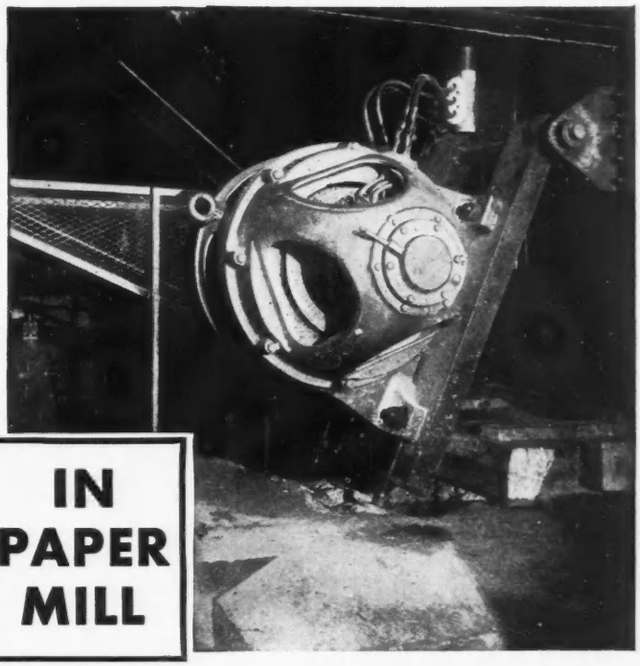

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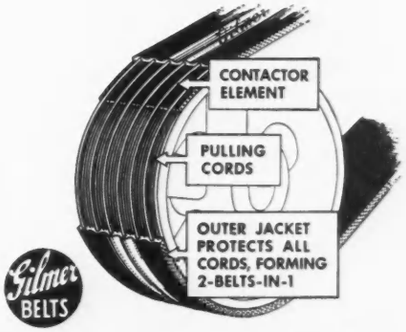

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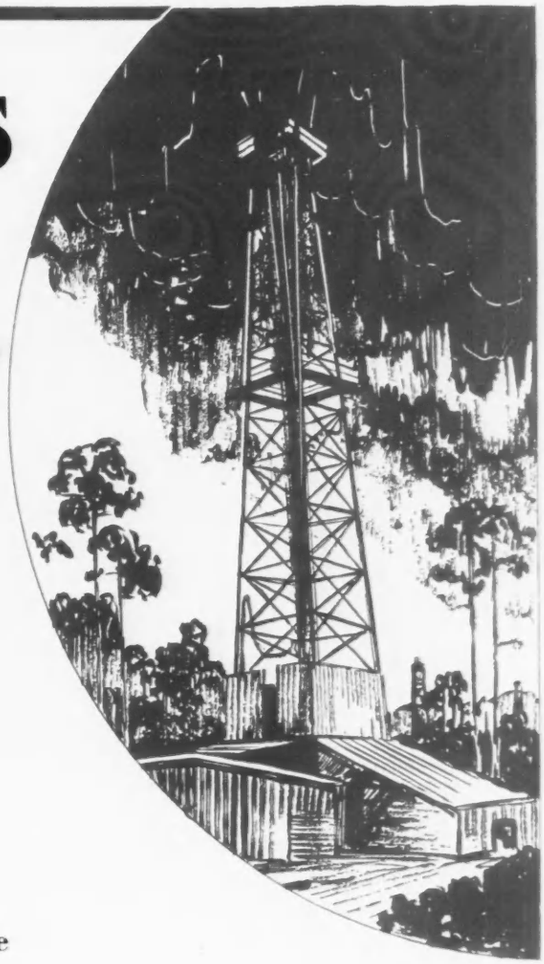

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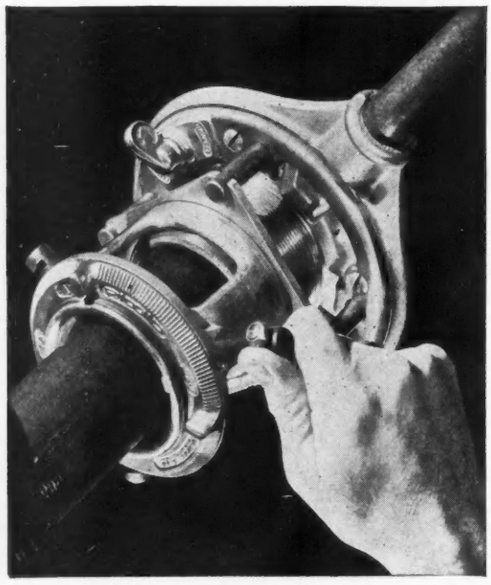

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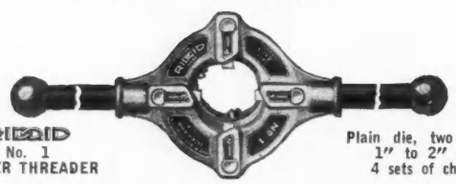

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vey, quit at 6461 ft, 1935. Gulf Production Co.'s Wilkes & Smith 1, J. W. Hall Survey, quit at 6647 ft, January, 1936. Had slight showing of oil in Frio topped at 6273 ft. The showing was around 6330 ft. Salt water sand was found from 6425 to 6479 ft. Gulf Production Co.'s Fairfield 1, 4750 ft, n of Wilkes & Smith 1, A. Robeson Survey, was making drill stem test of sand showing oil 6267 to 6274 ft, March, 1936. **Principal Leaseholders:** In addition to companies named above, those which have leases include Sun Oil Co., Magnolia Petroleum Co., Sinclair Prairie Oil Co. Stanolind Oil & Gas Co., and Gulf Oil Corp. **Remarks:** Sometimes referred to as Sandy Point.

LONG POINT—(Sulphur Field)

Six mi e Needville, H. & T. C. Sections 56, 57, 66, 67, 101, 102, 110, 111; R. L. Morris, Geo. Waters, and T. F. Pinckney Surveys **Means of Discovery:** Torsion balance, Gulf Production Co., 1924. **Discovery (Oil Well)** Gulf's Wolf 13, 100 bbls, 50 percent oil, 600 ft, December 15, 1928. **Structure:** Salt dome. Top of cap rock 550 ft, salt 930 ft. **Producing Formations:** Sulphur produced from cap rock; oil from sands above cap rock at 600 and 993-996 ft. **Productive Area:** Only a few acres productive of oil. **Extent of Development:** Through 1935, total 70 tests, two oil, 68 dry. Drilling mostly shallow, and largely in connection with sulphur exploration and development. Texas Gulf Sulphur Co. began sulphur mining in March, 1930. **Deepest Hole:** Benedum-Trees Oil Co.'s Hensler 1, Chas. D. Sayer Survey, 6500 ft, December, 1934. Oil show at 5826 to 5860 ft. **Production Through 1935:** Only sulphur. Small oil production, involving only few barrels, not recorded. **Rig Running January 1, 1936;** None. **Principal Leaseholder:** Gulf Oil Corp.; sulphur rights subleased to Texas Gulf Sulphur Co. **Remarks:** First actual discovery in coast area credited to torsion balance.

NASH

Four mi e Damon, in H. N. Cleveland and Thos. Allsberry Surveys. **Means of Discovery:** Elevation, gas seeps, and sulphur water. Dome verified by Rycade Oil Corp. by torsion balance in 1923. **Discovery Well:** Rycade's Nash 5, January 2, 1926, 500 bbls, 4127 ft. **Structure:** Salt dome, top cap rock 625 ft, top salt 950 ft. **Production Formations:** Miocene sands, 3700 to 4825 ft, and Lower Oligocene, 5644 to 5677 ft. **Productive Area:** About 120 acres. **Extent of Development:** Through 1935, 74 tests, 28 oil, 46 dry. **Deepest Hole:** Harrison & Abercrombie's Nash 15 reached 6800 ft, shale, February, 1932. **Estimated Ultimate Recovery:** 1,750,000 bbls. **Production Through 1935:** 1,635,298 bbls. **Indicated Remaining Reserve:** 114,702 bbls. **Daily Production in January, 1936:** 1 well, 40 bbls. **Oil Outlet:** Humble Pipe Line Co., 6-in. **Range of Gravity:** 20-24. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Harrison & Abercrombie.

NEEDVILLE*

One and one half-mi se of Needville, centering around H. & T. C. Section 25 and Robert Hodge Survey. **Means of Discovery:** Surface elevation; also later a torsion balance prospect (a very large minimum), found first by Meyer & SoRelle in 1928, and checked by other companies. Seismograph found no indications, suggesting no dome unless very deep. Humble Oil & Refining Co. and The Texas Co. worked in the area with torsion balance in 1935. Humble also worked with a magnetometer. **Structure:** One torsion balance test showed structure as fault rather than salt dome. **Extent of Development:** Several shallow tests. South Texas Exploration Co.'s Hartfield 1, H. & T. C. Section 25, reported oil show at 4975 ft, good gas show at 6450 ft, and oil show at 6889 ft, depth of abandonment in 1929. Winkleman 1, same section, quit at 4652 ft, 1929. Gem Oil Co.'s Farmer 1, R. Hodge Survey, quit at 6110 ft, August, 1934. Cored sand 5663 to 5830 ft with odor of oil but showed salt water. Humble Oil & Refining Co.'s A. Hackasted 1, abnd 6024 ft, September, 1934, showed oil 4543 to 4553 ft, gas 5366 to 5386 ft. Electrical device showed gas sands 4000 to 4035 ft and 4125 to 4150 ft. **Principal Leaseholders:** Humble Oil & Refining Co., Shell Petroleum Corp., Pure Oil Co., Gulf Oil Corp.

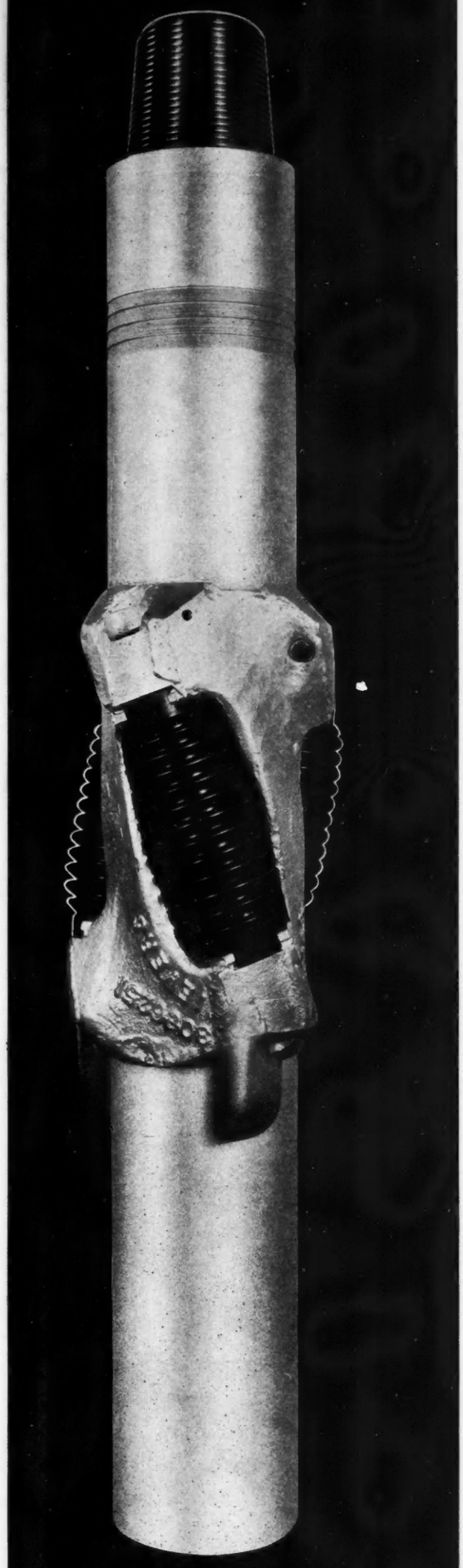
ORCHARD

One mi s town Orchard; James Frazier, L. Burknap, Mark Smith, German Emigration Co., David Scott Surveys. **Means of Discovery:** Seismograph, Gulf Production Co., 1924. **Discovery Well:** Gulf's Moore 5, January 18, 1926, flowed 2000 bbls 34.5 gravity oil daily at 3702 ft. **Structure:** Shallow salt dome, top cap rock 285 ft, top salt 375 ft. **Producing Formations:** Middle and Lower Oligocene sands at 2685 to 4150 ft; little production from cap rock. Upper Saline Bayou 6675-6690 ft. **Productive Area:** Around 125 acres. **Extent of Development:** Through 1935, 47 tests, 25 oil, 22 dry. **Deepest Hole:** Gulf Production Co.'s J. Moore 43, drilled to 6650 ft, blew out and caught fire, estimated making 50 to 60,000,000 cubic ft gas daily, July, 1935. Killed and drilled to 7282 ft, November, 1935. It was pb to 6670 ft, csg perforated 6675-6690 ft, came in making 145 bbls distillate. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 2,914,171 bbls. **Indicated Remaining Reserve:** 2,085,829 bbls. **Daily Production in January, 1936:** 12 wells, 548 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 24-34. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Gulf Oil Corp., controls dome through leases on Moore land. **Remarks:** First seismograph discovery on Gulf Coast. Seismograph work done for Gulf by "Seismos" G.m.b.H., Hannover, Germany, directed by Dr. L. Mintrop.

PILANT LAKE*

Three mi s Rabb Ridge field, adjacent Pilant Lake, Wm. Barrett and Abner Harris Surveys. **Means of Discovery:** Surface evidence; Pure Oil Co. torsion balance in 1929 gave promise. Seismograph did not indicate a dome, however; and drilling has failed to confirm presence of a structural high. **Extent of Development:** Pure Oil Co.'s Brown et al 1 quit at 4510 ft, 1930. Jas. T. O'Hara's T. A. Brown 1 quit at 4572 ft, 1932. Lowrie & Young et al's Brown Estate 1 quit at 5832 ft, 1933. Thompson Drilling Co.'s Brown 1, Geo. Menefee Survey, dry at 6035 ft, October, 1935.

*Prospect. †Salt dome, no production. ‡Gas field.



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RICHMOND*

Four mi e Richmond, Joseph Kukendall Survey. **Means of Discovery:** Geophysics, Grayburg Oil Co., 1929. **Extent of Development:** Grayburg's R. F. Ransom 1, abnd 4335 ft, 1929. Apparently the company regarded the test as condemning the prospect.

ROSENBERG*

South of Rosenburg, centering around H. Scott, J. Lowery and De May Surveys. **Means of Discovery:** Torsion balance and reflection seismograph, Humble Oil & Refining Co., 1934. **Principal Leaseholder:** Humble Oil & Refining C. **Remarks:** (See Beasley and Needville.)

SMITHERS LAKE*

Three mi w Thompsons, in L. Smither, Edward Jeffrey, Henry Jones Surveys, adjacent to Smithers Lake. **Means of Discovery:** Gas seepages and topography. Work was done about 1928 with both seismograph and torsion balance, casting doubt on importance of prospect. Stanolind Oil & Gas Co. and Atlantic Oil Producing Co. worked the A. P. George acreage with torsion balance in 1935. **Extent of Development:** Bunte Oil & Gas Co.'s George 1, J. Jones Survey, quit in Marginulina, salt water sand, 6010 ft, November, 1935. Salt water sand from 5455 to 5459 ft.

SOUTH FRESNO*

South and west of Manvel field, centering around H. & T. B. Section 69, I. & G. N. Section 1, on the Fort Bend-Brazoria County line. **Means of Discovery:** Reflection seismograph, The Texas Co., 1934. Stanolind Oil & Gas Co., Gulf Production Co., Humble Oil & Refining Co., Independent Exploration Co., and Hammond Exploration Co. did geophysical work in the area. **Extent of Development:** Six mi s of this prospect, Turnbull & Irwin's Braden 1 was dry at 6857 ft, in salt water sand, October, 1934. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co., Humble Oil & Refining Co. **Remarks:** This prospect was the old Marland Oil Co.'s prospect. Turnbull & Irwin's Braden 1 was drilled on a 5000-acre block worked by reflection seismograph by Hammon Exploration Co. The block centers around the C. Mays survey. South Fresno and the Arcola prospects closely join each other.

SUGARLAND

Five mi se Sugar Land, Wm. Stafford, Wm. Little and E. Alcorn Surveys. **Means of Discovery:** Surface indications and log of old wildcats. Early refraction seismograph shooting, in search of shallow domes, missed Sugar Land. But North American Exploration Co. found it by torsion balance for H. C. Cockburn, who later turned leases to Humble Oil & Refining Co., which in meantime confirmed dome by seismograph. **Discovery Well:** First test drilled after geophysical work, Humble's Sugarland Industries 1, established production March 26, 1928, 800 bbls 28 gravity oil, 3536 ft. **Structure:** Salt dome, top cap rock 3500 ft, top salt 4280 ft. Oil sands not pierced by dome. **Producing Formations:** Middle Oligocene saad at 2900-3900 ft; blanket or sheet sand spread unbroken over dome, lending itself well to the pressure maintenance program employed in field. **Productive Area:** About 1175 acres. **Extent of Development:** Through 1935, 77 tests, 68 oil, 2 gas, 7 dry. **Deepest Hole:** Humble's S. C. Deatherage 1-B, 4460 ft. **Estimated Ultimate Recovery:** 90,000,000 bbls. **Production Through 1935:** 23,134,876 bbls. **Indicated Remaining Reserve:** 66,865,124 bbls. **Daily Production in January, 1936:** 48 wells, 5580 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Range of Gravity:** 27-35. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Humble. **Remarks:** At time of discovery Sugar Land was a relatively deep dome and stimulated search for deeper domes along Gulf Coast. Pressure maintenance system for prolonging flowing life of wells.

•Prospect. †Salt dome, no production. ‡Gas field.

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THOMPSONS

Two and one-half mi s Thompsons and 13 mi se of Richmond, Jno. Rabb, S. Kennedy, Robert Peebles, and H. Chrisman Surveys. **Means of Discovery:** Surface elevation caused first interest, and several years before opening of field torsion balance work revealed anomaly, which was not classed definitely, however, as a salt dome. **Discovery Well:** Gulf Production Co. and Cullen & West's Lockwood & Sharp A-1, completed May 21, 1931, flowing 400 bbls 24.5 gravity oil daily through choke from 3057-3089 ft. **Structure:** Considered deep salt dome, although no cap rock or salt reached. **Producing Formations:** Four Miocene sands at 3050 to 4000 ft; small production Marginulina zone of Middle Oligocene at 5100-5400 ft. **Productive Area:** Approximately 3880 acres. **Extent of Development:** Through 1935, 226 tests, 204 oil, 22 dry. **Deepest Hole:** Humble-Gulf's F. I. Booth 2, n flank, H. Crisman Survey, quit at 8539 ft, October 22, 1935. Stuck drill pipe. **Estimated Ultimate Recovery:** 210,000,000 bbls. **Production Through 1935:** 18,219,997 bbls. **Indicated Remaining Reserve:** 191,780,003 bbls. **Daily Production in January, 1936:** 192 wells, 10,653 bbls. **Oil Outlet:** Humble Pipe Line Co. 8-in. Gulf Pipe Line Co. **Range of Gravity:** 24-26. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp. and Humble Oil & Refining Co., operating jointly on 50-50 basis, control nearly whole field; The Texas Company, H. M. Naylor.

GALVESTON COUNTY

BOLIVAR PENINSULA*

West of High Island, centers around Patton Survey. Means of Discovery: Torsion balance, Sun Oil Co., The Texas Co. Worked by both companies with reflection seismograph in 1935. **Principal Leaseholders:** Sun Oil Co. and The Texas Co. **Remarks:** 8000 acres under lease. Sun Oil Co. acquired the acreage September, 1935, for one year geophysical option.

DICKINSON

Three mi se Dickinson, John Sellers, B.B.B.&C., J. Jones, J. S. Sherman, W. K. Wilson and A. E. Edwards Surveys. **Means of Discovery:** Seismograph reflection, Pure Oil Co., 1928; Republic Production Co., torsion balance, 1928; Humble Oil & Refining Co. and Stanolind Oil & Gas Co. also worked the area with geophysical instruments. **Discovery Well:** Humble Oil & Refining Co.'s Maco Stewart 1, August 3, 1934, blew out and caught fire from Frio sands topped at 7789 ft; Maco Stewart 1-B, 2500 ft n of the discovery well, made 5 bbls, 37.6 gravity oil per hour, 8025 ft, November 27, 1934. **Structure:** Deep seated salt dome, however, no dome material yet encountered. **Producing Formations:** Lower Marginulina-Frio sands from 7789 to 8060 ft; Frio sands 8445-8460, 8510 to 8535 ft, and at 9116-9140 ft. **Productive Area.** About 10,000 acres. **Extent of Development:** Through 1935, 24 (not including early shallow test) tests, 19 oil, 5 dry. **Deepest Hole:** Humble's Danielson 1 and Scheffer 1, 9360 ft. Scheffer 1 was dry at 9360 ft. **Estimate Ultimate Recovery:** 50,000,000 bbls. **Production Through 1935:** 303,525 bbls. **Indicated Remaining Reserve:** 49,696,475 bbls. **Daily Production in January, 1936:** 18 wells, 1751 bbls. **Oil Outlet:** Humble Pipe Line Co., 4-in; Bennett Production Co., 6-in. **Range of Gravity:** 35-41. **Rigs Running January 1, 1936:** Seven. **Principal Leaseholders:** Humble, Pure Oil Co., Turnbull & Irwin (farm-out of Gulf Oil Corp.), Stanolind Oil & Gas Co. (State Leases), Coast Petroleum Corp. **Remarks:** Sw of Dickinson surrounding Coast Pet Corp.'s operations is referred to as Gillock.

GREEN'S LAKE*

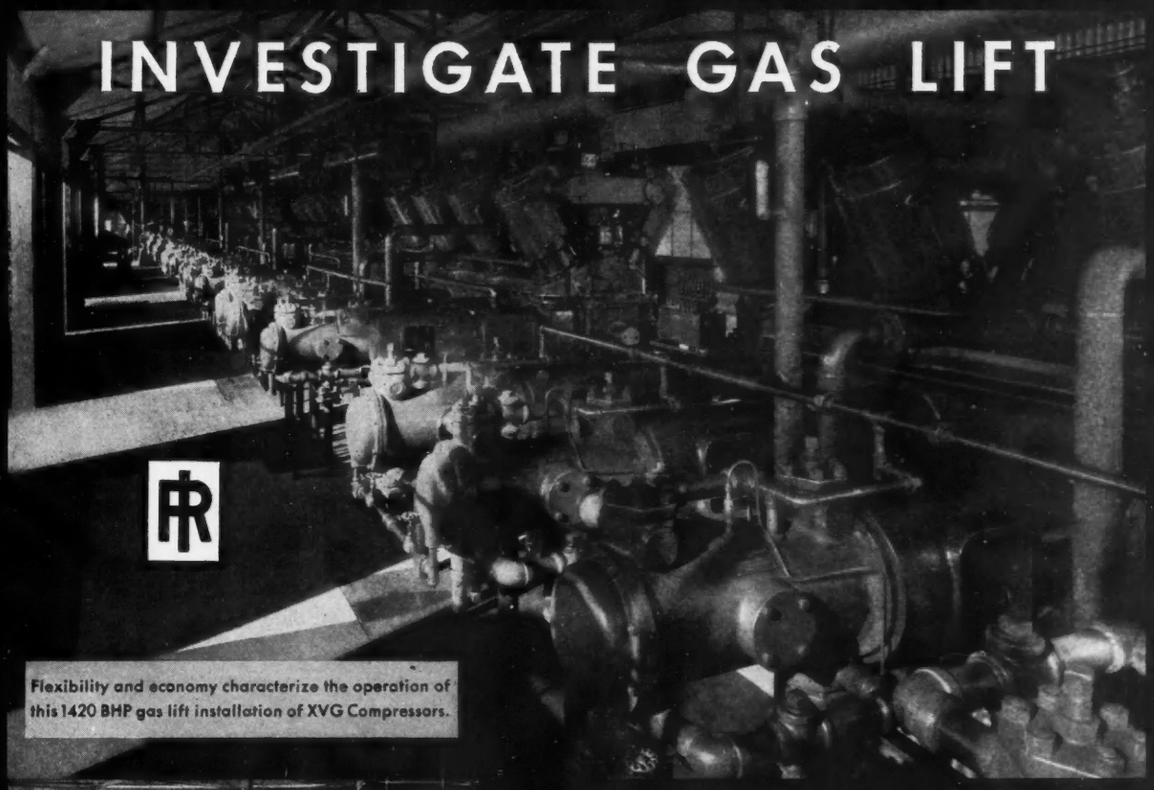
Six mi sw of Hitchcock, centering the D. Buckley, W. C. M. Baker and S. A. White Surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935. Torsion balance, Humble Oil & Refining Co., 1928. **Extent of Development:** Humble's Elias V. Rosenkranz 1, S. White Survey, quit in heaving shale, 7119 ft, March, 1933. Sun's Hughes 1 set 9⅝-in csg 8596 ft, fsh, March, 1936. The well had no showings of oil or gas. **Principal Leaseholders:** Sun Oil Co. (12,000 acres), Humble Oil & Refining Co.

FRIENDSWOOD*

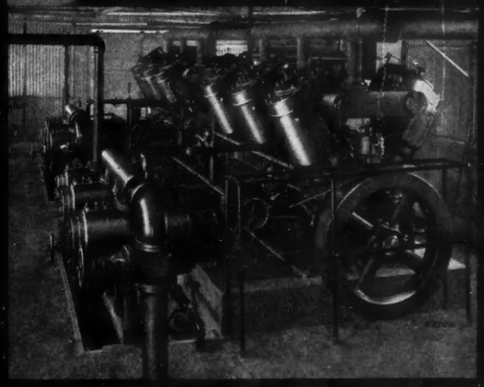
Two mi sw Webster, centering around common corner of Sarah McKissick, Thomas Choate, John Dickinson and W. D. C. Hall Surveys. **Means of Discovery:** Geology. Geophysical work by West Production Co. and Humble Oil & Refining Co. **Extent of Development:** Webster Oil & Gas Co. drilled 2000 ft dry hole in n end Dickinson Survey in 1933. Lewis et al drilled Goar 1, e corner McKissick Survey, going to 6262 ft before quitting in March, 1934; reported showings at 3650 ft. Quaker City Oil Co.'s Goar 1, quit at 6758 ft, September, 1934. **Principal Leaseholders:**

When Natural Flow Declines

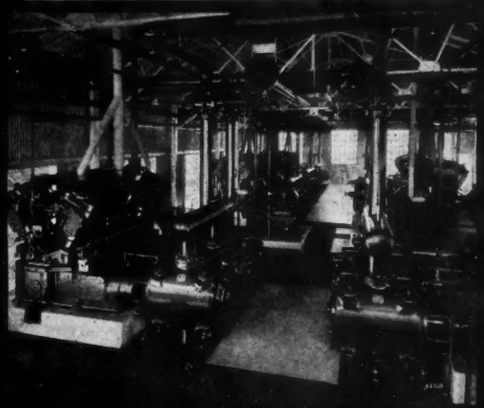
INVESTIGATE GAS LIFT



Flexibility and economy characterize the operation of this 1420 BHP gas lift installation of XVG Compressors.



380 and 1330 BHP "XVG" compressing plants in gas lift service.



Gas lift can cut your production costs lower than other methods of production. Among its outstanding advantages are:

- Central plant control for any number of wells
- Elimination of moving parts in the well
- Elimination of rod pulling jobs
- Elimination of crooked hole problems

The Type XVG 4-cycle gas engine driven compressor is especially adaptable for economical gas lift service. Conservatively rated in 4 sizes—60, 125, 190 and 260 BHP, with complete interchangeability of cylinders and 95% of the running parts, it will give you:

- Low installation costs
- Low operating costs
- Flexibility in operation
- Low cost of transferring to another site

Ask our engineers to check your properties for recommendations.

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West Production Co., Humble Oil & Refining Co. **Remarks:** See Pearland prospect.

HIGH ISLAND

At town of High Island. Martin Dunman and Nicholas Fitzsimmons Surveys. **Means of Discovery:** Surface elevation, gas seeps and mineral waters. **Discovery Well:** Sun Oil Co.'s Cade 4, October 28, 1922, 70 bbls, 2250 ft. **Structure:** Salt dome, top cap rock 130 ft, salt 1300 ft. **Producing Formations:** Cap rock at 1500 ft, few wells; Miocene sand at 3625 to 3766, 4400 to 4521, 4614 to 4960 ft, and 5022 to 6275 ft. **Productive Area:** About 200 acres. **Extent of Development:** Through 1935, 203 tests, 92 oil, 111 dry. **Deepest Hole:** Yount-Lee Oil Co.'s Broussard 2, 6322 ft, and then plugged back to make producer. **Estimated Ultimate Recovery:** 25,500,000 bbls. **Production Through 1935:** 10,922,448 bbls. **Indicated Remaining Reserve:** 14,577,552 bbls. **Daily Production in January, 1936:** 60 wells, 6888 bbls. **Oil Outlet:** Stanolind Pipe Line Co., 10-in. **Range of Gravity:** 24-40. **Rigs Running January 1, 1936:** Four. **Principal Leaseholder:** Stanolind Oil & Gas Co.

HITCHCOCK*

Centers n and around Hitchcock, in S. F. Austin, W. H. Jack and James Butler Surveys. **Means of Discovery:** Gas and sulphur water in water wells; geophysics, including Shell Petroleum Corp., reflection seismograph in 1929. Gulf Production Co. reworked with reflection in 1935. Amerada Petroleum Corp. worked from Hitchcock to Green Lake with reflection seismograph in 1935. **Structure:** Regarded as not being a regular salt dome; possibly a deep dome or structure. **Principal Leaseholders:** Gulf Oil Corp., Shell Pet. Corp.

TEXAS CITY*

Three mi s of Texas City, centering around the H. B. Littlefield Survey. **Means of Discovery:** Geophysical work by Stanolind Oil & Gas Co. and The Texas Co. **Principal Leaseholder:** Steen Drilling Co. **Remarks:** Titles are being cured, plan 8500-ft test.

GRIMES COUNTY

CARLOS*

Three mi e and s Carlos, Pat B. O'Connor Survey. **Means of Discovery:** Surface indications; also checked by geophysics, 1929. **Extent of Development:** Dozen or so tests. Oil shows in several wells around 2800 ft. **Deepest Hole:** Petroleum Southwest Corp.'s Greer 1, quit at 5010 ft, 1933.

FERGUSON'S CROSSING†

Five mi w Carlos, centering around J. F. Case and G. W. Seaton Surveys, and lying partially in Grimes and Brazos Counties. **Means of Discovery:** Surface geology; also checked by geophysics, 1928. **Structure:** Salt dome. Top salt around 4075 ft. **Extent of Development:** Humble Oil & Refining Co., G. W. Seaton Survey, Templeman 1 proved dome, quitting in salt at 4170 ft, June, 1933. Henderson 1 quit at 6130 ft, February, 1934.

YARBORO*

Three mi sw Yarboro, J. J. Whiteside and J. E. Groce Surveys. **Means of Discovery:** Torsion balance, Cranfill-Reynolds Co., 1929. **Extent of Development:** Cranfill-Reynolds' Baylor 1, Whiteside Survey, quit at 4600 ft, 1930; had oil shows between 1800-2200 ft. Same company's Stoneham 1, same survey, dry at 3400 ft. Koch et al's Haferkamp 1, S. Fulton Survey, quit in Cockfield at 3779 ft, 1933.

HARDIN COUNTY

ARRIOLA

Two mi w Voth. Eduardo Ariola Survey. **Means of Discovery:** Seismograph, Gulf Production Co., 1928; also shown as dome by seismograph of Humble, Shell and others prior to actual drilling. **Discovery Well:** Republic Prod. Co. and Houston Oil Co.'s Arriola 1, completed Sept. 14, 1932, flowing 320 bbls 41 gravity net oil, 60 percent water, daily through three eighths-inch choke from sand at 3995 to 4157 ft. This was first test drilled on the prospect. **Structure:** Salt dome, top salt 4133 ft. **Producing Formations:** Miocene-Pliocene sands at 3000 to 3579 ft; sands from 3995 to 4320 ft in Heterostegina zone of Middle Oligocene; sands around 4700 ft. **Productive Area:** About 100 acres. **Extent of Development:** Through 1935, 24 tests, 15 oil, 9 dry. **Deepest Hole:** Gulf Production Co.'s Kirby 1-A, abnd in shale 6743 ft. **Estimated Ultimate Recovery:** 4,000,000 bbls. **Production Through 1935:** 1,069,870 bbls. **Indicated Remaining Reserve:** 2,930,130 bbls. **Daily Production in January, 1936:** 10 wells, 1010 bbls. **Oil Outlet:** The Texas Pipe Line Co., 6-in. **Range of Gravity:** 24.1-41.2. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Republic Production Co., Houston Oil Co.

BATSON

Adjacent to town of Batson on northwest. A. M. Lejarza, B.B. B.&C. R.R., Jno. Knight, H. Green, Willis Donoho, J. Milhome, Champion Choate Surveys, and State Land Vacancy. **Means of Discovery:** Gas seeps and paraffin dirt. **Discovery Well:** Paraffin Oil Co.'s Fee 1, Oct. 31, 1903, 600 bbls, 790 ft. **Structure:** Salt dome, top cap rock 1080 ft, top salt 2050 ft. **Producing Formations:** Cap rock; sands at 350 to 750 ft; Oligocene sands ranging down to 3600 ft; Yegua sands from 4867 to 5570 ft. **Productive Area:** About 600 acres. **Extent of Development:** Through 1935, partly estimated, 1382 tests, 1147 oil, 235 dry. **Deepest Hole:** D & D Production Co.'s H. Hooks 1, W. Donohoe Survey, se flank test, dry at 6502 ft, November, 1935. **Estimated Ultimate Recovery:** 45,500,000 bbls. **Production Through 1935:** 36,962,831 bbls. **Indicated Remaining Reserve:** 8,537,169 bbls. **Daily Production in January, 1936:** 8 wells, deep sand, 1699 bbls; 150 wells, shallow sand, 578 bbls, total 2277 bbls. **Oil Outlet:** Sun Pipe Line Co., 6-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 27.7-38.4. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** The Texas Co., W. G. Christian et al, Paraffin Oil Co., Ada Bell Oil Co., East Batson Oil Co., Hill & Dowell, Capitol Oil Co., Deutser Oil Co., Acorn Oil Co., Shell Petroleum Corp., John Deering, Danciger Oil & Refining Co. **Remarks:** John Deering and Batson Oil Co.'s Hooks 1 extended field over 3000 ft se, October, 1934; it made 85 bbls per day from 5090 ft in heaving shale; oil sand was found in Upper Saline Bayou formation from 4896 to 4998 ft.

BRAGG*

South of Bragg, centering around W. K. Griffin Survey. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1935. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** Sw of Votaw prospect.

GRIGSBY*

Enoch Grigsby Survey, eight mi e of Saratoga dome. **Means of Discovery:** Petty Geophysical Engineering Corp. torsion balance and reflection seismograph, 1929. Stanolind Oil & Gas Co., torsion balance, 1935. **Principal Leaseholders:** David B. MacDaniels has a 4000-acre block. Sun Oil Co., Stanolind Oil & Gas Co. reported to have agreed to give bottom hole money for a wildcat. Between Sour Lake and Arriola fields independent company took a geophysical option on approximately 5000 acres centering around the W. C. R. R. Survey, Section 380. This block was an old Yount-Lee block which was worked with reflection which gave indications of a structure. Stanolind Oil & Gas Co. worked in the area with torsion balance in 1935.

KOUNTZE*

Two mi n Kountze; centering arond J. R. Carry and J. Landis No. 1 Surveys. **Means of Discovery:** Geology, involving surface indications and sub-surface data later. **Extent of Development:** About half dozen shallow tests, from 800 to 2700 ft. Three deep tests. Frazier & Greer's Sternberg Lumber Co. 1, H. T. & B. No. 283 Survey, quit in Cockfield at 6988 ft, June, 1934; found formations higher than normal. Wilcox Oil & Gas Co.'s Sternberg 1, G. Dorsey No. 1 Survey, quit at 6501 ft, September, 1934, formations higher than normal. Gas show 3268 to 3280 ft and at 5010 ft Jack Frazier's Sterneburg 1, J. J. Pearson Survey, abnd 6897 ft, May, 1935, salt water sand from 6865 to 6895 ft. **Principal Leaseholders:** Above named companies; also Humble Oil & Refining Co., United Gas Co., Empire Gas & Fuel Co., Republic Production Co., Houston Oil Co.

SARATOGA

Adjacent to Saratoga, toward the east. M. E. Hopkins Nos. 1 and 2, B.B.B.&C. No. 132, and 72, C. F. S. Jordit, J. F. Cotton, R. Teel, N. Fuller, J. Lewis, B.B.B.&C. Surveys. **Means of Discovery:** Broken surface, mineral water, and gas seeps. **Discovery Well:** Hooks et al's Hooks 1, 1901, 500 bbls, 995 ft. **Structure:** Salt dome, top cap rock 1500 ft, top salt 1900 ft. **Producing Formations:** Pliocene-Miocene and Oligocene sands at 500-2000 ft, and around 2650 ft, 3100 ft, and 3300 ft; cap rock 3320 ft (see remarks). **Productive Area:** Around 575 acres. **Extent of Development:** Through 1935, partly estimated, 1062 tests, 871 oil, 191 dry. **Deepest Hole:** Seven Wells Corp.'s Teel 1, sw flank, dry at 6270 ft, August, 1933. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through 1935:** 27,736,282 bbls. **Indicated Remaining Reserve:** 2,263,718 bbls. **Daily Production in January, 1936:** 193 wells, 838 bbls. **Oil Outlet:** Sun Pipe Line Co., Gulf Pipe Line Co., 6-in. **Range of Gravity:** 15-22. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Paggi Brothers, Weldon Oil Co., Gulf Oil Corp., Sun Oil Co., Rio Bravo Oil Co., E. W. Skinner, Humble Oil & Refining Co., Magnolia Petroleum Co., Hines Brothers, Sinclair Prairie Oil Co. **Remarks:** Hines Brothers' Caswell 1, B.B.B.&C. R.R., Section 72, extended field 4000 ft e, December, 1934; it made 50 bbls daily on pump from 3321 ft; the Upper Saline Bayou was encountered just above the cap rock.

SILSBEE*

Northwest of Silsbee, centering around the A. A. Burrell Survey. **Means of Discovery:** Reflection seismograph, torsion balance. Republic Production Co., 1934-35. **Extent of Development:** Republic Production Co.'s Burrell 1, A. A. Burrell Survey, dr to 7778 ft, run electrical survey of hole pb 4425 ft, sdtr 3650 ft, dr March, 1936. **Principal Leaseholders:** Republic Production Co. and Houston Oil Co. hold most of the property through Southwest Settlement and Development Co. fee holdings.

SOUR LAKE

Adjoins Sour Lake on the north, being in Stephen Jackson, H. Williams Surveys, and H.&T.B. Section, A-282. **Means of Discovery:** Broken surface, gas seeps, and mineral waters. **Discovery Well:** Sour Lake Oil Co.'s Fee 2, July 18, 1902, 10,000 bbls, 375 ft. **Structure:** Salt dome, top cap rock 660 ft, top salt 750 ft; field produced originally from cap rock in large quantities; revived in 1913 by discovery of deep flank sands. **Producing Formations:** Pliocene-Miocene sands and cap rock at 500-1200 ft, and middle Oligocene and lower Oligocene sands at 2000 to 4400 ft. **Productive Area:** About 900 acres. **Extent of Development:** Through 1935, partly estimated, 1583 tests, 1257 oil, 2 gas, 324 dry. **Deepest Hole:** Sun Oil Co.'s R. S. Sterling 1, ne flank, dry at 7914 ft, March, 1935. **Estimated Ultimate Recovery:** 100,000,000 bbls. **Production Through 1935:** 77,418,123 bbls. **Indicated Remaining Reserve:** 22,581,887 bbls. **Daily Production in January, 1936:** 162 wells, 1612 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-, 8-, and 10-in; The Texas Pipe Line Co., 12-in; Stanolind-Sun Pipe Line Co., 10-in. **Range of Gravity:** 20-31. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Rio Bravo Oil Co., Lake View Oil Co., Gulf Oil Corp., The Texas Co., Orange Petroleum Co., Minor Oil Co., Gilbert Oil Co., Lake Graham Oil Co., Theis Oil Co., Stanolind Oil & Gas Co., Houston Production Co., M. L. Yount, Tr., Prudential Oil Co., Humble Oil & Refining Co., Sun Oil Co., Alpha Petroleum Co. **Remarks:** Five tests on ne

*Prospect. †Salt dome, no production. ‡Gas field.

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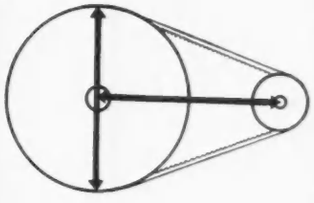

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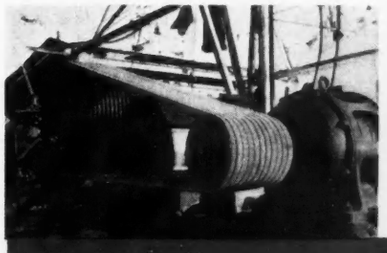

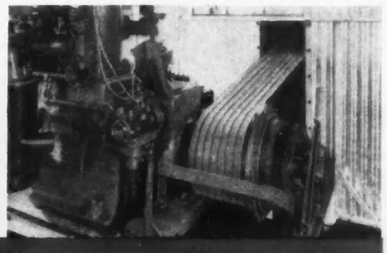

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flank showed commercial oil and gas in the Cockfield but due to heaving shale and fine sands were forced to abnd; Yount-Lee Oil Co.'s Fee Lynn 1, S. Jackson Survey, drilled 3811 ft of salt from 3650 to 7461 ft.

VOTAW*

Three mi ne Votaw, Benj. H. Hawkins and Mary K. Sherman Surveys. **Means of Discovery:** Geophysical work was done in 1931 by several companies, including Gulf Production Co. seismograph. **Extent of Development:** Funderberg & Smith's Kirby 1, Hawkins Survey, dry, 2840 ft. S. Robichaux et al's McShane 1, same survey, dry, 3919 ft, 1932. W. R. Alexander et al's Southwestern Lumber Co. 1, Sherman Survey, dry, 3691 ft, 1932. **Deepest Hole:** S. Robichaux's McShane 1, Hawkins Survey, 3919 ft.

HARRIS COUNTY

ADDICKS*

Near Addicks, centering in central portion of Wm. Hardin Survey. **Means of Discovery:** Surface evidence; torsion balance of Cockburn Oil Corp. about 1932, indicated a "high." Reflection seismograph, Independent Exploration Co., Standard Oil Co. of Kansas, 1933. Torsion balance, The Texas Co., 1933, Stanolind Oil & Gas Co., 1934. **Extent of Development:** Several shallow tests, including some by The Texas Co. Cockburn Oil Corp.'s Mancuso 1, William Hardin Survey, near Buffalo Bayou, dry at 6290 ft. Cockburn Oil Corp. and Frazier's Herman Hospital 1 quit at 7597 ft, March, 1935. Took eight cores in Cockfield, but found no sand. Well was abnd in Eponidez Yeguaensis; structurally lower than Mancuso 1. **Remarks:** Stanolind Oil & Gas Co. acquired around 2300 acres in this area July, 1933.

ALDINE*

One and one half-mi nw Aldine, centering around Simon Contreras Survey. **Means of Discovery:** Torsion balance, Petty Geophysical Engineering Corp., 1928. Gulf Production Co., Humble Oil & Refining Co., The Texas Co., and others also checked prospect about same time and took leases. On recheck by various companies, however, there was no verification and Vacuum Oil Co.'s geophysics failed to find encouragement. In 1932 prospect was worked by Petty.

ALMEDA*

Adjacent to Almeda on the south, in R. T. Blackburn, J. Hamilton, H. Sanders, and J. W. Moody Surveys. **Means of Discovery:** Vacuum Oil Co. torsion balance, 1928. Area also gave promise previously through surface indications. Seismograph as well as torsion balance has given indication of a very deep dome. Reflection seismograph, Humble Oil & Refining Co., 1935. **Extent of Development:** South Texas Petroleum Co.'s Hicks-Higbee 1, J. Hamilton Survey, abnd 4412 ft in 1929. Also about two mi to west two previous tests drilled in H. Sanders Survey, including a 3500-ft test of Cullen et al. **Principal Leaseholder:** Humble Oil & Refining Co.

BAMMEL*

Three mi w Westfield, centering around common corners of C. Walters, D. Harmon, G. H. Delesdenier Surveys. **Means of Discovery:** Humble Oil & Refining Co. torsion balance prospect, 1928. **Extent of Development:** Van McPhail et al's Dunman 1, se corner George H. Delesdenier Survey, quit at 6480 ft, July, 1933. It was considered higher than normal structurally, and several oil and gas showings were reported, including gas at 1700, 2100 2700, and traces of oil lower. Top of Cockfield was around 6175 ft. Within about 1000 ft of that deep test, an earlier 3000-ft wildcat had reported heavy gas sand around 2800 ft.

BATTLE GROUND*

Centering around San Jacinto Battle Ground, A. McCormick, Harris and Carpenter Surveys. **Means of Discovery:** Surface geology; geophysics. **Extent of Development:** T. S. & F. Oil Co.'s Hines 1, dry at 3915 ft, 1935. It made a small amount of gas and brackish water. Several shallow holes drilled by Buckholtz & Miller. Cockburn Oil Corp.'s Houston Ship Channel 1, quit at 5785 ft, November, 1935, in Frio, had salt water sand 5560 to 5568 ft. **Principal Leaseholders:** T. S. & F. Oil Co., Stanolind Oil & Gas Co., Cockburn Oil Corp., Shell Petroleum Corp., Tide Water Oil Co., S. Dunman. **Remarks:** Shell Petroleum Corp.'s refinery and Houston Oil Co.'s fee land located in the area.

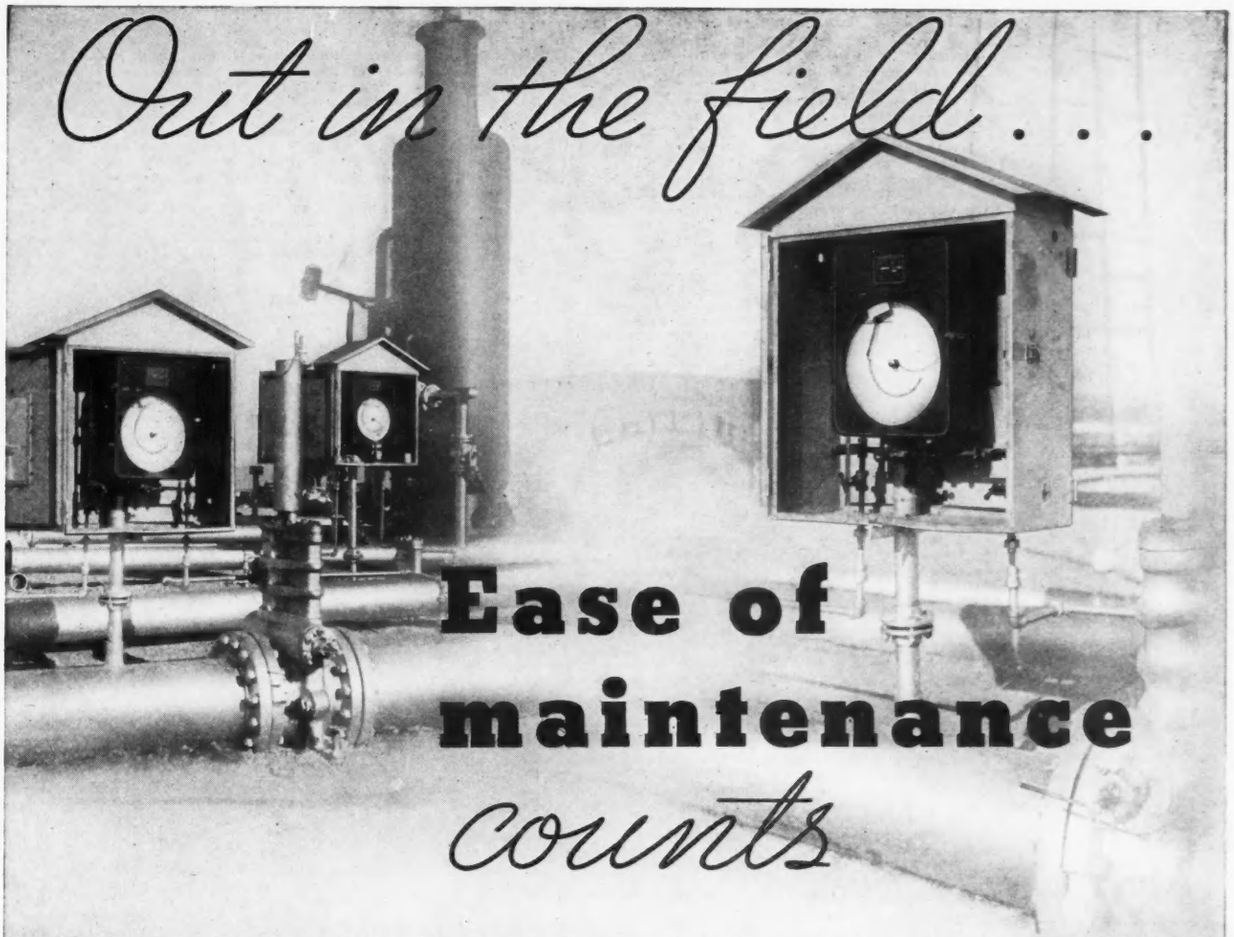
BELLAIRE*

Southwest of Bellaire and four mi nw Pierce Junction dome, centering around J. M. Swisher, W. Twist, C. McKenzie Surveys. **Means of Discovery:** Geophysics, 1934. **Extent of Development:** Loring Oil & Gas Co.'s Westmoreland Development Co. 1, J. M. Swisher Survey, quit at 7664 ft with a stuck drill stem, August, 1934. Texas Gulf Producing Co.'s Westmoreland 1, nw of Loring Oil & Gas Co.'s Westmoreland 1, abnd 9111 ft, February, 1936.

BURNETT BAY*

Centering in and around Burnett Bay in Nathaniel Lynch Survey. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1934. Within a radius of two mi of Burnett Bay, The Texas Company worked with reflection seismograph, July, 1934; Sun Oil Co., May, 1934, and Standard Oil Co. of Kansas, June, 1933. **Extent of Development:** Cranfill & Reynolds Brown 1, dry 6124 ft. Cockburn Oil Corp.'s T. W. Thompson 1 dr salt water sand in Frio, quit at 7008 ft, March, 1936. **Principal Leaseholders:** Humble Oil & Refining Co. (bed of bay), Shell Petroleum Corp., Stanolind Oil & Gas Co.

*Prospect. †Salt dome, no production. ‡Gas field.



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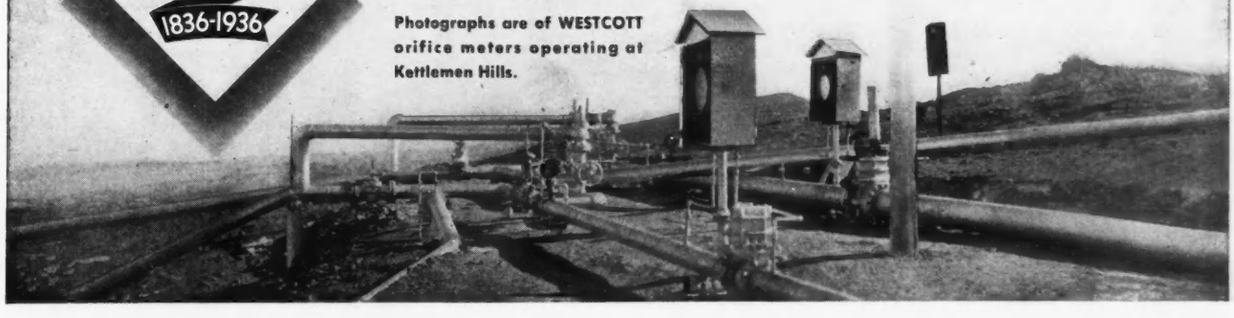

CEDAR BAYOU*

Six mi se Crosby, Hannah Nash, George Ellis and W. Gregory Surveys. **Means of Discovery:** Surface indications seismograph, Shell Petroleum Corp., 1929; Sloan Prospecting Co., torsion balance. **Extent of Development:** Five deep tests by Sloane Prospecting Co., ranging from 5520 to 6564 ft deep, and finding various oil and gas showings including gas around 1500, 3200, 4000 and 4400 ft, and oil around 4000, 4500, 4800 and 5950 ft. A test is reported to be dr by R. A. Stamey. **Deepest Hole:** Sloane Prospecting Co.'s Sansedt 1, n portion Geo. Ellis Survey, dry at 6564 ft, October, 1933. **Principal Leaseholders:** Shell Petroleum Corp., Gulf Oil Corp., R. A. Stamey.

COCKBURN*

North of Deep Water on Houston Ship Channel, centering R. R. Vince Survey. **Means of Discovery:** Geophysical work by Continental Oil Co., Shell Petroleum Corp., and The Texas Co. **Extent of Development:** Turnbull & Irwin's Brooks Estate 1 quit at 6015 ft, in salt water sand, February, 1934. Cockburn Oil Corp.'s Brooks Estate 2, 5745 ft, salt water sand, August, 1935. Sand was cored from 5680 to 5690 ft in Marginulina. Harlen Oil Co.'s Ship Channel 1, show gas 3135-50 ft, salt water sands 5200 ft down to 6028 ft, abnd March, 1936, at 6028 ft. **Principal Leaseholders:** Cockburn Oil Corp., Turnbull & Irwin, Continental Oil Co. **Remarks:** H. M. Christie acquired around 2500 acres in November, 1935, in the above area and is approximately ¾ mi ne of Turnbull & Irwin's Brooks 1, and has made location for a wildcat test.

CROSBY*

Five mi n of Crosby, D. Culp, A. Reeves, H. Jackson, R. White and Wm. White Surveys. **Means of Discovery:** Torsion balance, reflection seismograph, Humble Oil & Refining Co., 1934. Stanolind Oil & Gas Co., and Shell Petroleum Corp. have worked in the vicinity with geophysical instruments. **Extent of Development:** J. H. Hodge's Wilda Scott 1, dry at 6275 ft, 1934. **Principal Leaseholders:** Humble Oil & Refining Co. (11,000 acres), Shell Petroleum Corp., Stanolind Oil & Gas Co. **Remarks:** Humble Oil & Refining Co. controls a block which joins the Stanolind block on the n. Over 11,000 acres under lease in this area.

DEER PARK*

Between Deer Park and Strange, Enoch Brinson, Wm. Jones Surveys. **Means of Discovery:** Torsion balance, 1928; Humble Oil & Refining Co., Gulf Production Co. and others. **Extent of Development:** Several early shallow tests. Since geophysical work, five deep tests, all below 6000 ft, drilled by W. C. Turnbow et al, Strange Petroleum Corp., McCarthy et al, and Turnbull & Irwin. Latter's Dunn 1, Brinson Survey, showed some gas on drill stem at 2600 ft. Strange's J. W. Good 1, same survey, reported gas show at 6000 ft. **Deepest Hole:** McCarthy et al's Harrison 1, Wm. Jones Survey, dry at 6715 ft, September, 1933. **Remarks:** See Battle Ground and Burnett Bay prospects.

EAST KATY*

Five mi e of Katy, centering around the H. & T. C. and W. C. R. R. Surveys. **Means of Discovery:** Reflection seismograph and torsion balance, Humble Oil & Refining Co., 1933-34. The general area has been worked with reflection seismograph by Amerada Petroleum Co., Independent Exploration Co. Torsion balance work was done by The Texas Co., Stanolind Oil & Gas Co. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** The block consists of 40,000 acres which was taken on a geophysical option which was exercised in 1934; leases taken for 10 years.

EUREKA‡

Northwest of Houston, centering the H. Reinerman Survey. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., Dr. Sundt, reflection seismograph, Tide Water Oil Co. and others. Reflection seismograph did not confirm torsion balance indication of dome. **Discovery Well:** C. B. Bunte's Laura Lackner 1, November 22, 1934, 45 bbls, 54.6 distillate, 3/32-in choke at 7662 ft after pb from 7681 ft. **Structure:** Considered deep seated salt dome; no dome material has been encountered; not much structure, slight "nosing." **Producing Formation:** Yegua series, 231 ft, below top of Cockfield in Upper Saline Bayou, from sands at 7662 to 7695 ft. **Productive Area:** Only the discovery well. **Extent of Development:** Through 1935, 5 tests, 1 gas and distillate, 4 dry. **Deepest Hole:** Means & McGehee's Laura Lackner 1, dry at 7852 ft, in Upper Saline Bayou, February, 1935. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through 1935:** 4622 bbls. **Indicated Remaining Reserve:** 495,378 bbls. **Daily Production in January, 1936:** None. **Oil Outlet:** Trucks. **Range of Gravity:** 54.6. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** C. B. Bunte, Alamo Drilling Co., Humble Oil & Refining Co., Tide Water Oil Co., Eureka Production Co., Darby Petroleum Co., Stanolind Oil & Gas Co., Magnolia Petroleum Co., Gulf Oil Corp.

GENOA‡

Near Genoa. Aug. Whitlock, G. Dedrick, J. Pruitt, D. Putnam Surveys. **Means of Discovery:** Torsion balance, 1928; North American Exploration Co. for H. C. Cockburn. **Discovery Well:** Jack Schultz et al's West 1, Geo. Dedrick Survey, 25 million ft gas, 3397-3404 ft, Oct. 1, 1933. **Producing Formation:** Gas from sand at 3397-3404 ft. **Productive Area:** Only a gas well has yielded production. **Extent of Development:** Through 1935, total 6 tests, 1 gas, 5 dry. **Deepest Hole:** West Production Co.'s Woodburn 1, dry at 7777 ft, June, 1935. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** H. C. Cockburn, West Production Co., Humble Oil & Refining Co. **Remarks:** Humble Oil & Refining Co. took over Cockburn block, drilled two tests and turned back, 1930. Jack Schultz et al drilled on same block in 1932-1933. West Production Co. has three-quarter interest in 1382 acres and assigned Humble Oil & Refining Co. half interest. H. C. Cockburn has 370 acres. **Remarks:** Gas producer shut in.

*Prospect. †Salt dome, no production. ‡Gas field.

GOOSE CREEK

Wm. Scott Upper League, Lower League and Labor and Goose Creek Bay. **Means of Discovery:** Broken surface and gas seeps. **Discovery Well:** T. C. Rucker et al's Gaillard 2, 1906, 800 bbls, 1600 ft. **Structure:** Regarded as probably a very deep seated salt dome; no cap rock or salt has been encountered despite drilling of several deep tests. **Producing Formations:** Pliocene-Miocene and Oligocene sands at 1000 to 4600 ft; one well producing a little oil at 5875-5894 ft. **Productive Area:** About 1000 acres. **Extent of Development:** Through 1935, partly estimated, 974 tests, 629 oil, 345 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Simms-Smith 74, abnd in February, 1929, in sticky shale at 6967 ft. **Estimated Ultimate Recovery:** 90,000,000 bbls. **Production Through 1935:** 74,270,961 bbls. **Indicated Remaining Reserve:** 15,729,039 bbls. **Daily Production in January, 1936:** 85 wells, 2539 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-, 10- and 12-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 20-36. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Humble, Gulf Oil Corp., Southern Exploration Co., Port City Oil Co., Gulf Coast Oil Corp., Powell Oil Co., Atlantic Oil Producing Co., Ferrel & Ehrhart, Newton & Lillie, Wier Oil Co.

HALE*

In ne corner of county, eight mi ne Humble, centering around R. Hanks Survey. **Means of Discovery:** Worked geophysically about 1928 by Gulf Production Co., Shell Petroleum Corp., and Humble Oil & Refining Co. **Extent of Development:** W. R. Alexander et al's Hale 1, abn May, 1932, 5086 ft, had small gas show at 2500 ft and oil show 3300 ft. W. U. Paul's House 1, M. Magruder Survey, dry at 7329 ft, 1934, showing of oil in Frio at 3822 ft. House 2, 100 ft n of House 1, quit at 7765 ft, April, 1935; salt water. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co.

HOCKLEY

Four mi s Hockley; in following surveys: T. A. Sulley, A. B. Langermann, S. Everett, E. Ehrenberg, A. Guliver, T. Cobhill, H.T.&B. R.R. No. 1, and J. Hudson. **Means of Discovery:** Surface indications. **Discovery Well:** Texas Exploration Co.'s Warren 13, Oct. 15, 1923, 25 bbls, 26 gravity, 1820 ft. **Structure:** Salt dome, top cap rock 115 ft. **Producing Formations:** Oil production from sands at 1800 ft and 2400 ft. **Productive Area:** About 10 acres. **Extent of Development:** Through 1935, 74 tests, 5 oil, 69 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Warren 7, abnd 7063 ft, 1930. **Production Through 1933:** 20,552 bbls. **Daily Production in January, 1936:** None. **Range of Gravity:** 22. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Humble, John Deering. **Remarks:** Salt mined from shallow salt plug.

HUMBLE

Under and to the east of Humble townsite. Surveys: W. B. Adams, J. B. Jones, J. Strange, R. Dunn, J. B. Stevenson, W. T. Charles, W. W. Williams, E. Ruhl, G. H. Scott, J. Dunman, H.E.&W.T. R.R. Nos. 5 and 6, G. Joy. **Means of Discovery:** Surface elevation, gas seeps, paraffin dirt. **Discovery Well:** D. R. Beaty's No. 1, Jan. 9, 1905, 5000 bbls, 700 ft. **Structure:** Salt dome, top cap rock 1000 ft, top of salt 1200 ft. **Producing Formations:** Cap rock and sands of Miocene, Oligocene, Jackson, and Claiborne age, at depths of 700 to 5670 ft. Field had many prolific wells, including over 50 more than 5000 ft deep. **Productive Area:** About 2400 acres. **Extent of Development:** Through 1935, partly estimated, 1561 tests, 1232 oil, 329 dry. **Deepest Hole:** Benedum & Trees' W. L. Foley 1, sw flank of dome, J. Ryan Survey, abnd in shale 8181 ft, July 1, 1930. **Estimated Ultimate Recovery:** 130,500,000 bbls. **Production Through 1935:** 120,150,125 bbls. **Indicated Remaining Reserve:** 10,349,875 bbls. **Daily Production in January, 1936:** 269 wells, 3414 bbls. **Oil Outlet:** The Texas Pipe Line Co., 10- and 8-in; Magnolia Pipe Line Co., 8-in; Sun Pipe Line Co., 6-in; Humble Pipe Line Co., 8-in. **Range of Gravity:** 17-45. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Sun Oil Co., Continental Oil Co., South Texas Petroleum Co., Southern Petroleum Co., Louisiana Oil Refining Corp., J. D. Clay, Martin, Drake & Jones, E. M. Wilson Oil Co., J. H. Burt, Jno. Deering, Rio Bravo Oil Co.

MOUNT HOUSTON*

Northeast of Houston, and s of Mount Houston, centering around the J. Callahan Survey. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Petroleum Corp., Stanolind Oil & Gas Co., The Texas Co., March, 1935. **Principal Leaseholders:** Shell Petroleum Corp., The Texas Co., Gulf Oil Corp.,

MYKAWA

One-half mi sw of Mykawa in W. J. Lovett, W. B. Walker, and J. C. Megginson, F. J. Rothass, Minnetex Subdivision. **Means of Discovery:** Gas in old wells and surface indications; torsion balance survey of North American Exploration Co. (1928) for H. C. Cockburn gave evidence of deep salt dome. **Discovery Well:** Humble Oil & Refining Co.'s W. H. Irvin 2, 50-million foot gas well, 4189 ft, August 19, 1929. **Structure:** Regarded as possible deep-seated salt dome, although no cap rock or salt has been encountered. **Producing Formations:** Miocene and Oligocene (Frio) sands at 4100-4900 ft; on e side, Frio sands found from 4380 to 4800 ft. **Productive Area:** Around 300 acres. **Extent of Development:** Through 1935, 43 tests, 32 oil, 2 gas, 19 dry. **Deepest Hole:** West Production Co.'s W. Lang 1, J. Hall Survey, quit at 7350 ft, heaving shale, September, 1935; Vicksburg topped at 5997 ft. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 1,153,237 bbls. **Indicated Remaining Reserve:** 3,846,763 bbls. **Daily Production in January, 1936:** 25 wells, 3780 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Range of Gravity:** 39.2. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Crown Central Petroleum Corp. and Framer Oil & Gas Corporation (jointly), Hamill & Smith, Higgins Oil & Fuel Co., Watts Drilling Co., West Production Co., Sterling Oil & Refining Co., Danciger Oil & Refining Co., Alpha Petroleum Co. **Remarks:** West Production Co.'s J. Raymon et al 1, extended

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HYDRIL COMPANY

THE HYDRIL SYSTEM OF CONTROLLED PRESSURE DRILLING

(Patents pending on this system of drilling)

Drilling Equipment oper-

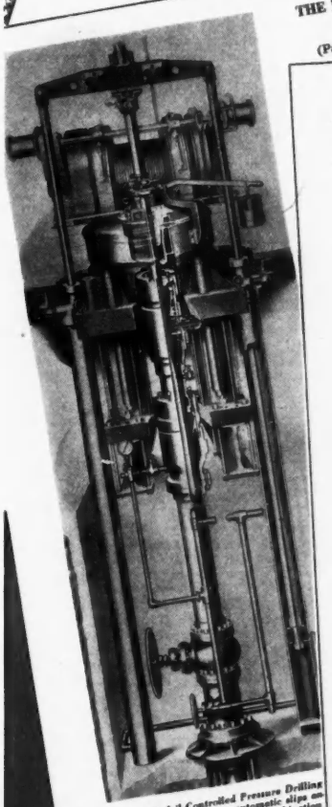

Fig. 23. Hydril Controlled Pressure Drilling showing pull-down yoke, automatic slips and mechanism, hydraulic rotary, combination auxiliary packers, master gate and hydraulic for operating the pull-down equipment. (Hydril patents pending.)

714 1936 Composite Catalog

HYDRIL COMPANY

HYDRIL EXTERNAL FLUSH DRILL PIPE JOINT

(Patented and Patents Pending)

The use of Hydril External Flush Joint Drill Pipe rs the operator many advantages over ordinary drill

ths, except 2¾" ch is regularly 18 to 20 foot

the most ad- illing machin- is, of course, reability for ng as it does and taper t the hands the manu-

IPE PLUGS

ag screws box and for the rs to be string un up ed by tongs ired. re- f of ush he ill r-

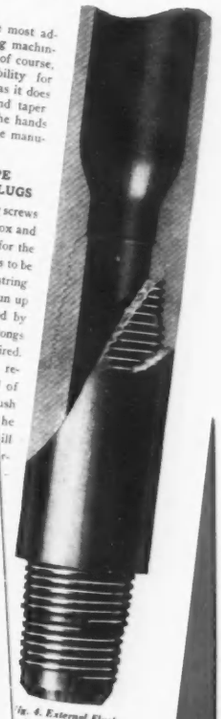

Fig. 4. External Flush Drill Pipe Joint.

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HYDRIL COMPANY

HYDRIL INTERNAL FLUSH DRILL PIPE JOINT

(Patented and Patents Pending)

The illustration shows the fundamental principle involved in the Hydril Internal Flush Drill Pipe Joint. The diameter of the hole through the tool joint is the same as the full inside diameter of the drill pipe. This wide-open, unrestricted fluid passage allows a larger volume of fluid to pass through the drill pipe to the bottom of the hole with less effort on the part of the pumps. In addition, the smooth circulation passage is free of eddy currents.

Depending on size, Hydril Internal Flush Drill Pipe Tool Joints offer the operator 27% to 61% greater cross sectional area of fluid passage than any other tool joints. The fundamental objective of the "full hole" joint is to secure greater volume of circulating fluid. The maximum possibly attainable is secured only with Hydril Internal Flush Drill Pipe and Tool Joints.

The large inside diameter of the wide-open circulation passage of Hydril Internal Flush Joint Drill Pipe allows wire line core barrels, replaceable cutter bits, surveying instruments and internal fishing tools to be run through the pipe quickly and safely. This drill pipe can also be used during production tests, for it can be bailed or swabbed as easily as can tubing.

Numerous tests show that the Hydril Drill Pipe Joint is the strongest drill pipe joint available. Every thread in the string is the same. When the pipe becomes somewhat slip-cut or bottlenecked, or the thread slightly worn through long use, both pipe and tool joints may be turned upside down to provide a new place for slips and new working threads. In this way the service life of a string of drill pipe, equipped with the Hydril Internal Flush Joint, may be greatly increased.

Externally upset drill pipe for Hydril threads and Hydril Internal Flush Tool Joints is to be upset by pipe mills according to Drawing S-5600. This drawing is on file at all the principal mills in the United States. The pipe can be furnished by the mills in any lengths up to 40 feet, except 2¾", which is regularly furnished in 20-foot lengths.

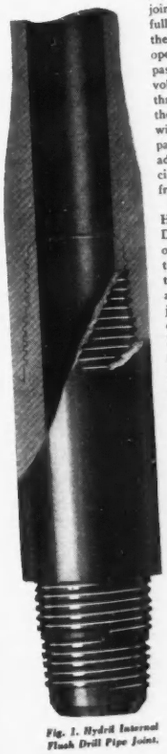

Fig. 1. Hydril Internal Flush Drill Pipe Joint.

BREAKING SUBSTITUTE

The Hydril Breaking Substitute is used with either Hydril Internal Flush Joint or Hydril External Flush Joint Drill Pipe for the purpose of eliminating wear of the female thread cut in the pipe.

The Breaking Substitute has a male thread at one end and a female thread at the other. The substitutes are placed in the drilling string at the top of each stand of pipe. All making and breaking of joints is done on the hardened threads of the tool joint pin and the Breaking Substitute box, thus protecting and prolonging the life of the drill pipe threads. As the Hydril drill pipe thread is non-galling, the Breaking Substitutes may be moved from one joint of pipe to another, further prolonging the life of the string by minimizing the effects of slip cutting.

Fig. 2. Breaking Substitute.

TABLE NO. 1

HYDRIL INTERNAL FLUSH DRILL PIPE JOINTS ARE FURNISHED FOR PIPE OF THE FOLLOWING SIZES AND WEIGHTS

SIZE—Outside Diameter of Drill Pipe	2⅜"	2½"	2⅝"	2¾"	4½"	4½"	5"
Outside Diameter of Tool Joint and Upset	3¼"	3¼"	4⅛"	4⅛"	6"	6"	6⅝"
Maximum Inside Diameter of Tool Joint	1¼"	1¼"	2⅛"	2⅛"	2⅜"	2¾"	2¾"
Minimum Weight per Foot, Drill Pipe Only, Lbs.	6.65	10.40	13.30	15.50	*15.60	19.15	20.10
Weight of Tool Joint, Pounds	25	30	37	42	64	66	86
Weight of Elevator Plugs, Each, Pounds	9	11	18	18	28	28	34

*Mills recommend these weights.

Section BEGINS ON Page 711

HYDRIL

Equipment is described in detail in your 1936 COMPOSITE CATALOG

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the field e and discovered a Frio sand at 4525 ft, and started a drilling campaign for that area. The east side of the field was called East Mykawa. Gas production taken by Houston Pipe Line Co.

NORTHWEST ALDINE*

Six mi nw Aldine, centering around W. C. R. R., Section 9, and J. W. Bryan Survey. **Means of Discovery:** Subsurface geology; geophysics, 1933. **Extent of Development:** Bert & Griffin's Milroy 1 quit at 2050 ft, in 1930. American Liberty Oil Co.'s Lewis-Clappert 1, which quit in Cockfield at 6462 ft, May, 1934, reported gas show around 4400 ft, oil shows 6075, 6450, 6550, and 6625 ft; but drill stem tests at those levels were not encouraging. American Liberty Oil Co.'s Sweeney quit in Cockfield at 6716 ft, November, 1934. Drill stem test 6514 to 6546 ft, showed salt water with odor of gas and oil. Eight ft of sand was found at 6558 ft. Graves Estate 1, 1¾ mi ne of Clappert 1, J. W. Bryan Survey, dry at 6626 ft, January, 1935. Drill stem test 6455 to 6470 ft showed salt water.

OGBURN*

South of Cypress, Jno. C. Ogburn Survey. **Means of Discovery:** Cranfill-Reynolds Co. torsion balance, 1930. Later geophysical work by others did not show evidence of dome or structure. **Extent of Development:** Cranfill-Reynolds Co.'s Rorick 1, ne corner Ogburn Survey, quit at 5420 ft, July, 1930. Had three oil shows, one each immediately above and below 2200 ft, and one around 3300 ft. General Crude Oil Co.'s Rorick 1, Ogburn Survey, dry at 6863 ft, September, 1934. Had salt water sand from 6423 to 6457 ft. Hebert, Still and Hooper's A. Backman 1, J. Ogburn Survey, quit at 6516 ft, July, 1935. Had show of gas at 6435 to 6448 ft. Drill stem test showed salt water. Walter Goldston et al's Weingarten 1, H. & T. C., section 39, quit in cockfield at 6603 ft, February, 1935. **Principal Leaseholders:** General Crude Oil Co., Skelly Oil Co., Walter Goldston et al, Humble Oil & Refining Co.

PIERCE JUNCTION

Six mi sw Houston; in following surveys: I.&G.N. R.R. No. 47, J. Kopman, B.B.B.&C. R.R. No. 1028, and J. Hamilton Nos. 51, 52, 53, 96 and 98. **Means of Discovery:** Surface elevation, gas seeps, and paraffin dirt. **Discovery Well:** Gulf Production Co.'s Taylor 2, 75 bbls, 3525 ft, Feb. 19, 1921. **Structure:** Salt dome, top cap rock 700 ft, salt 950 ft. **Producing Formations:** Miocene middle Oligocene, Frio and lower Oligocene sands at 3142 to 5566 ft. Numerous good wells over 5000 ft. Vicksburg sand at 6250 to 6710 ft, one well had oil sands at 6943 ft. **Productive Area:** About 320 acres. **Extent of Development:** Through 1935, 389 tests, 216 oil, 173 dry. **Deepest Hole:** Benedum & Trees Oil Co.'s Settegast 1, sw flank test, quit at 7165 ft, October, 1934. **Estimated Ultimate Recovery:** 40,000,000 bbls. **Production Through 1935:** 29,234,781 bbls. **Indicated Remaining Reserve:** 10,765,219 bbls. **Daily Production in January, 1936:** 76 wells, 4183 bbls. **Oil Outlet:** Humble Pipe Line Co., 6-in; Shell Pipe Line Co., 10-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 21-37. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Rio Bravo Oil Co., Gulf Oil Corp., Navarro Oil Co., Moody Corp., H. R. Cullen, Humble Oil & Refining Co., Anderson & Plummer, T. G. Shaw et al, Abercromble & Harrison, Warner-Quinlan Co., Tilton & Perot, South Texas Production Co., Hamil & Smith. **Remarks:** Navarro Oil Co. discovered Vicksburg production, 1934, in Cain A-3, a workover.

RED BLUFF*

Four and one-half mi se LaPorte, Wm. P. Harris Survey, jutting into Trinity Bay. **Means of Discovery:** Torsion balance, Sloane Prospecting Co., 1931. **Extent of Development:** Red Bluff Oil Co.'s Seureau 1, quit at 6028 ft, March, 1934. **Principal Leaseholders:** Wm. Minchen, Houston and Red Bluff Oil Co.

REELS AND TROBOUGH*

Five mi ne of Houston and four mi n of Clinton, centering around the Reels and Trobough, J. Moody, J. Anderson, J. Erwin, T. Meux Surveys. **Means of Discovery:** Torsion balance, Stanolind Oil & Gas Co., 1933-34; Fohs Oil Co., 1934, and The Texas Co., 1927-28. Reflection seismograph, Humble Oil & Refining Co. and Independent Exploration Co., 1935. **Extent of Development:** Texas New York Development Co.'s Ralston 1, tested salt water at 5502 ft in Frio Sept., 1934. **Principal Leaseholders:** Stanolind Oil & Gas Co., McElreath & Suggett, Sun Oil Co. and Shell Petroleum Corp. **Remarks:** Referred to as Greens Bayou.

SATSUMA*

Twelve mi nw of Houston, centering the W. Hamlin and A. Lawson Surveys. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1928; Gulf Production Co. **Extent of Development:** Hill & Hill's Wharton 1, salt water 7250 ft, 1935. **Principal Leaseholders:** Stanolind Oil & Gas Co., Gem Oil Co., Ralph Johnson, Humble Oil & Refining Co., The Texas Co. **Remarks:** Stanolind Oil & Gas Co. is going to make a lcn in W. C. R. R. Survey No. 2.

SHELDON*

Between Deversdale and Crosby and nw of Sheldon, centering around the southern part of the Victor Blanco Survey. **Means of Discovery:** The Texas Co., Shell Petroleum Corp., Stanolind Oil & Gas Co., and Humble Oil & Refining Co. geophysical work in 1934-35. The Texas Co.'s geophysical work reported unfavorable. **Extent of Development:** A. C. Hill's Swilley B-1, Victor Blanco Survey, was shut down at 7550 ft, March, 1936, waiting outcome of Swilley 1-A. Swilley 1-A, w of Swilley B-1, had reached contract depth at 7517 ft, and sd, March, 1936, and was reported to be running higher than Swilley 1-B. Neither well had showings of oil. **Principal Leaseholders:** A. C. Hill, Shell Petroleum Corp., The Texas Co., Humble Oil & Refining Co., Pan American Production Co., The California Co., Sinclair Prairie Oil Co. **Remarks:** Shell Petroleum Corp. has a large block in this area which is closely related to the Crosby prospect.

*Prospect. †Salt dome, no production. ‡Gas field.

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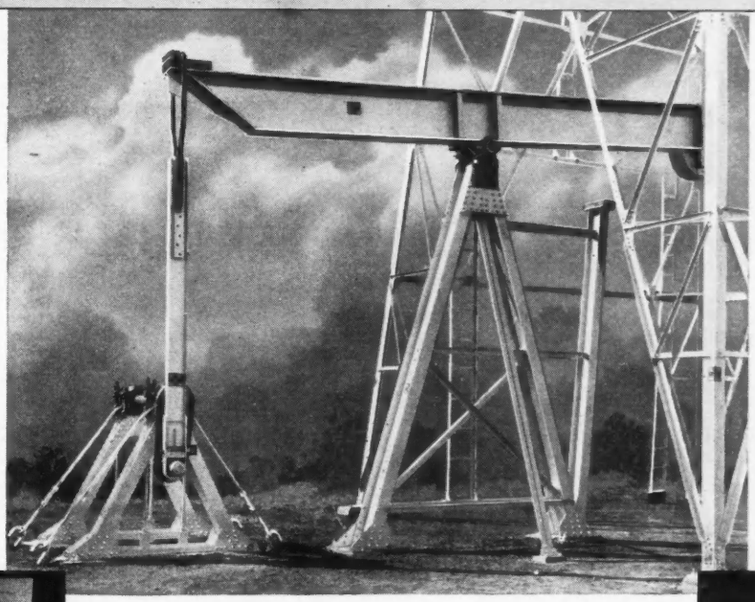

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Joint with Gusset Plates removed. Bolts are galvanized, with special fin heads to prevent turning. Lock Washers are Parkerized.

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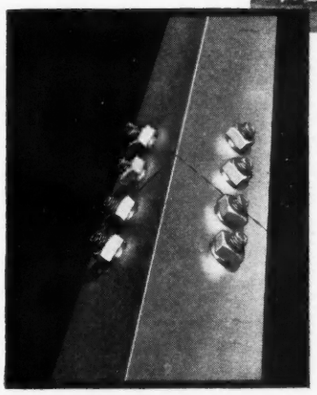
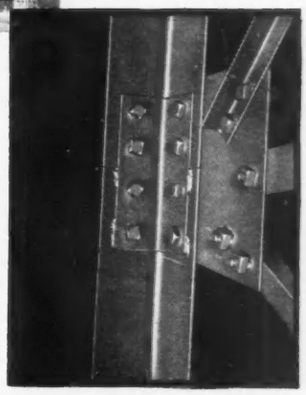
M.I.W. Bolts are Hot-Dip Galvanized, One-Wrench Bolts with Fin head to prevent turning. Have open, free running rolled threads not filled up with excess galvanizing metal.

Inside view of Joint with One Gusset plate removed — showing how inside Splice Plate is spot-welded to leg.





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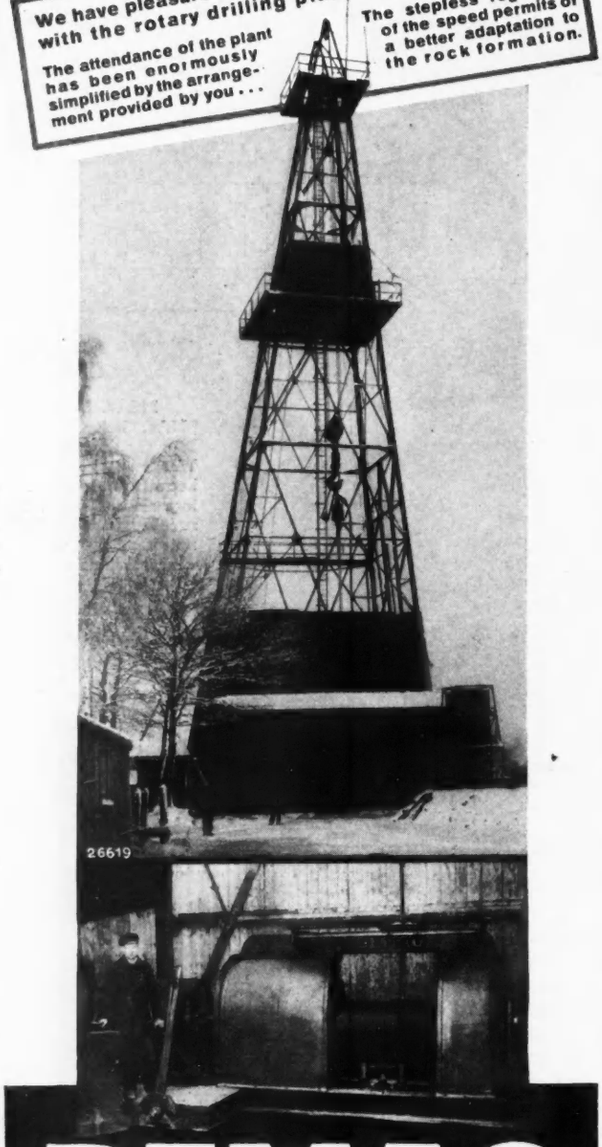

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SOUTH HOUSTON

Seven mi s of Houston, surrounding city of South Houston, H. & T. B. Section 5, and Mary Nichols Survey. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1934. **Discovery Well:** Stanolind's Drilling District 17 (Fee 1), 4665-80 ft, July 13, 1935, 12 bbls fluid per hour, 26.8 gravity oil. Salt water encroachment forced operators to drill deeper. Well tried to blow out at 5682 ft, September 15, was pb and drilled to 6050 ft and abnd November, 1935. **Structure:** Salt dome, top of the rock salt at 4662 ft; reported one of sharpest domes in Gulf Coast. **Producing Formations:** Miocene sands 3845-4096 ft; Lower Marginulina-Frio sands of the Oligocene formation 4580-4875 ft. **Productive Area:** Around 475 acres. **Extent of Development:** Through 1935, 15 tests, 9 oil, 1 gas, 5 dry. **Deepest Hole:** Stanolind's Drilling District 10 quit at 6850 ft salt March, 1936. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 71,654 bbls. **Indicated Remaining Reserve:** 4,928,346 bbls. **Daily Production in January, 1936:** 9 wells, 1053 bbls. **Oil Outlet:** Stanolind Pipe Line Co., 6-in. **Range of Gravity:** 19.5-25.5. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Stanolind. Several independent operators have outside acreage. **Remarks:** One well is permitted to each 16 acres. The city lots are divided into drilling districts. Johnson & Johnson turned the block to Stanolind Oil & Gas Co. and secured leases on the town lots from all parts of the world.

TOMBALL

Includes town of Tomball and embraces all or portions of following surveys: Joseph House, John H. Edwards, Wm. Hurd, C. Goodrich, Jno. M. Hooper, Chauncey Goodrich, I. & G. N. R. R. Co., A. Scenechal, Claude N. Pillot, Wilhelm Usener, J. Pruitt, E. Smith, T. A. Duclose and Hahl. **Means of Discovery:** Surface and sub-surface geology; torsion balance, Vacuum Oil Co., 1929; also geophysics by others, 1933. **Discovery Well:** Magnolia Petroleum Co. and Humble Oil & Refining Co.'s J. F. W. Kobs 1, John M. Hooper Survey, 69 bbls 41 gravity oil per hour through ½-in choke from Cockfield sand at 5547-5569 ft, May 27, 1933. **Structure:** No dome material reached, but regarded as possibly a deeply buried salt dome, as other structures along the Raccoon Bend-Conroe trend; in fact, closely resembles Conroe. Is circular in shape. Has 800 ft structural uplift, 350 ft total closure, 250 ft productive closure, and oil in about 25 ft of the productive closure. Several faults, averaging about 150 ft displacement, cut across the structure ne-sw. **Producing Formations:** Several sands at short intervals but probably connected by faulting, in Cockfield at 5525-5682 ft. **Productive Area:** About 11,000 acres, as regards oil and gas, with oil limited to about one-half that total. **Extent of Development: Through 1935,** 248 tests, 184 oil, 47 gas, 17 dry. **Deepest Hole: Magnolia's Wm. Martens 1, dry at 7438 ft, June, 1933. Estimated Ultimate Recovery:** 45,000,000 bbls. **Production Through 1935:** 3,135,840 bbls. **Indicated Remaining Reserve:** 41,-864,160 bbls. **Daily Production in January, 1936:** 195 wells, 6348 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in; Magnolia Pipe Line Co., 6-in. **Range of Gravity:** 39.8-41. **Rigs Running January 1, 1936:** Five. **Principal Leaseholders:** Humble and Magnolia jointly control large percentage of field; Amerada Petroleum Corp. and Stanolind Oil & Gas Co., jointly; The Texas Co., Continental Oil Co., Windsor Oil Co., Shell Petroleum Corp., Sun Oil Co.

HOUSTON COUNTY

KITTRELL

Six mi e of Weldon, centering C. McEllis Survey. **Means of Discovery:** Surface geology, 1932, and later worked with geophysical instruments. **Discovery Well:** Boone Brothers' Trinity State Bank 1, September 7, 1934, 1000 bbls, 24.4 gravity oil from 2036 ft. **Structure:** Salt dome, top gypsum 3772 ft, top salt 3850 ft. **Producing Formations:** Lower Eocene, 1944-1981 ft, Reklaw sands 1925-1995 ft, Carrizo sands at 2022-2054 ft. One test drilled saturated oil sands at 1085 ft, in Cook Mountain. **Productive Area:** About 200 acres. **Extent of Development:** Through 1935, 24 tests, 12 oil, 12 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Texas Long Leaf Lumber Co. 1, dry at 3870 ft, November, 1934. **Estimated Ultimate Recovery:** 2,500,000 bbls. **Production Through 1935:** 415,168 bbls. **Indicated Remaining Reserve:** 2,084,-832 bbls. **Daily Production in January, 1936:** 12 wells, 1081 bbls. **Oil Outlet:** Rail shipment. **Range of Gravity:** 24.3. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Boone Brothers, Humble, Sun Oil Co.

JASPER COUNTY

BUNA*

Southwest of Buna, centering around S. Crawford and J. A. Richson Surveys. **Means of Discovery:** Geophysical work by Humble Oil & Refining Co., Sun Oil Co., Republic Production Co., Gulf Production Co. **Extent of Development:** Republic Production Co.'s Sabine Tram 1, dry 7615 ft, May, 1935; gas show around 7422 ft. **Principal Leaseholders:** Sun Oil Co., Humble Oil & Refining Co., Republic Production Co., Gulf Oil Corp., E. L. Smith Oil Co.

EVADALE*

Southeast of Evadale, centering around B. Richardson Survey. **Means of Discovery:** Geophysical work, Republic Production Co. **Principal Leaseholder:** Republic Production Co.

KEITHTON*

Six mi se of Jasper, centering Blake, Williams, Turner and Morgan Surveys. **Means of Discovery:** Geophysics, Sun Oil Co. **Principal Leaseholder:** Sun Oil Co., (8000 acres).

*Prospect. †Salt dome, no production. ‡Gas field.

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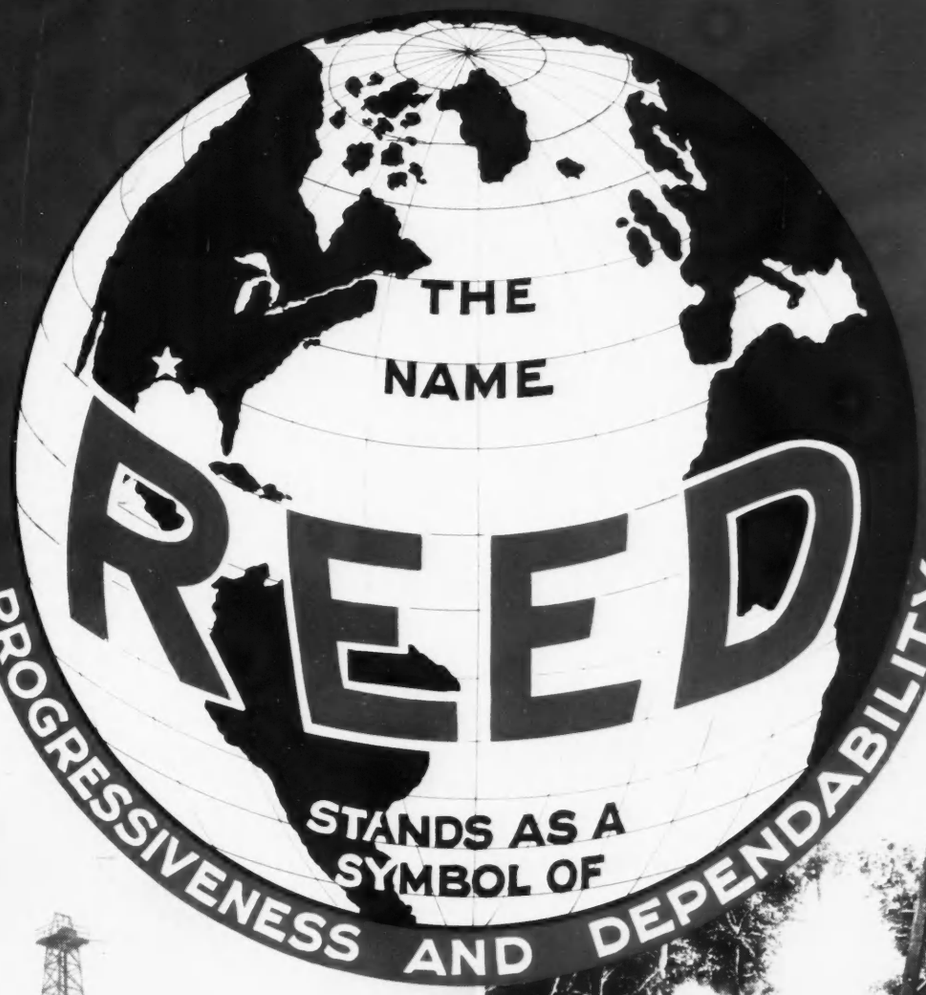

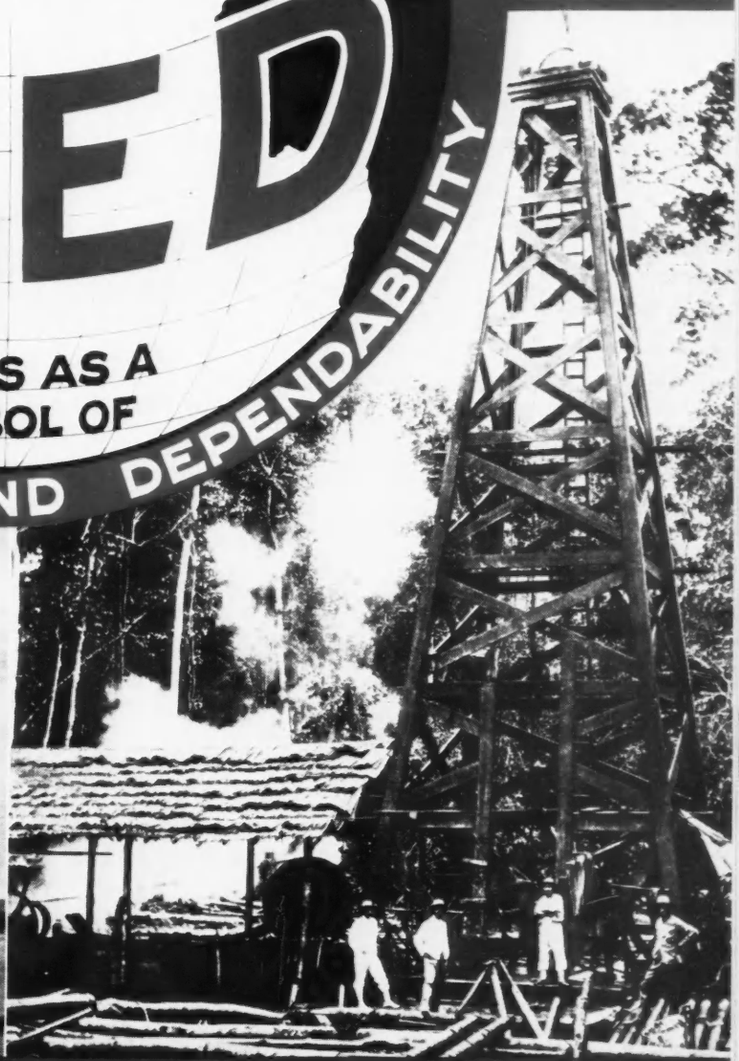

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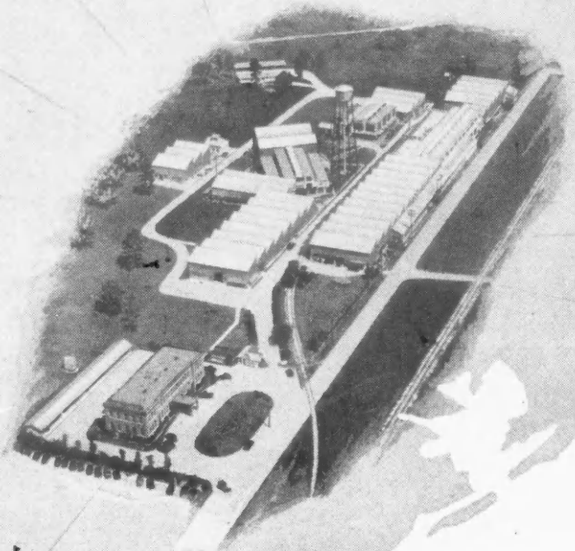

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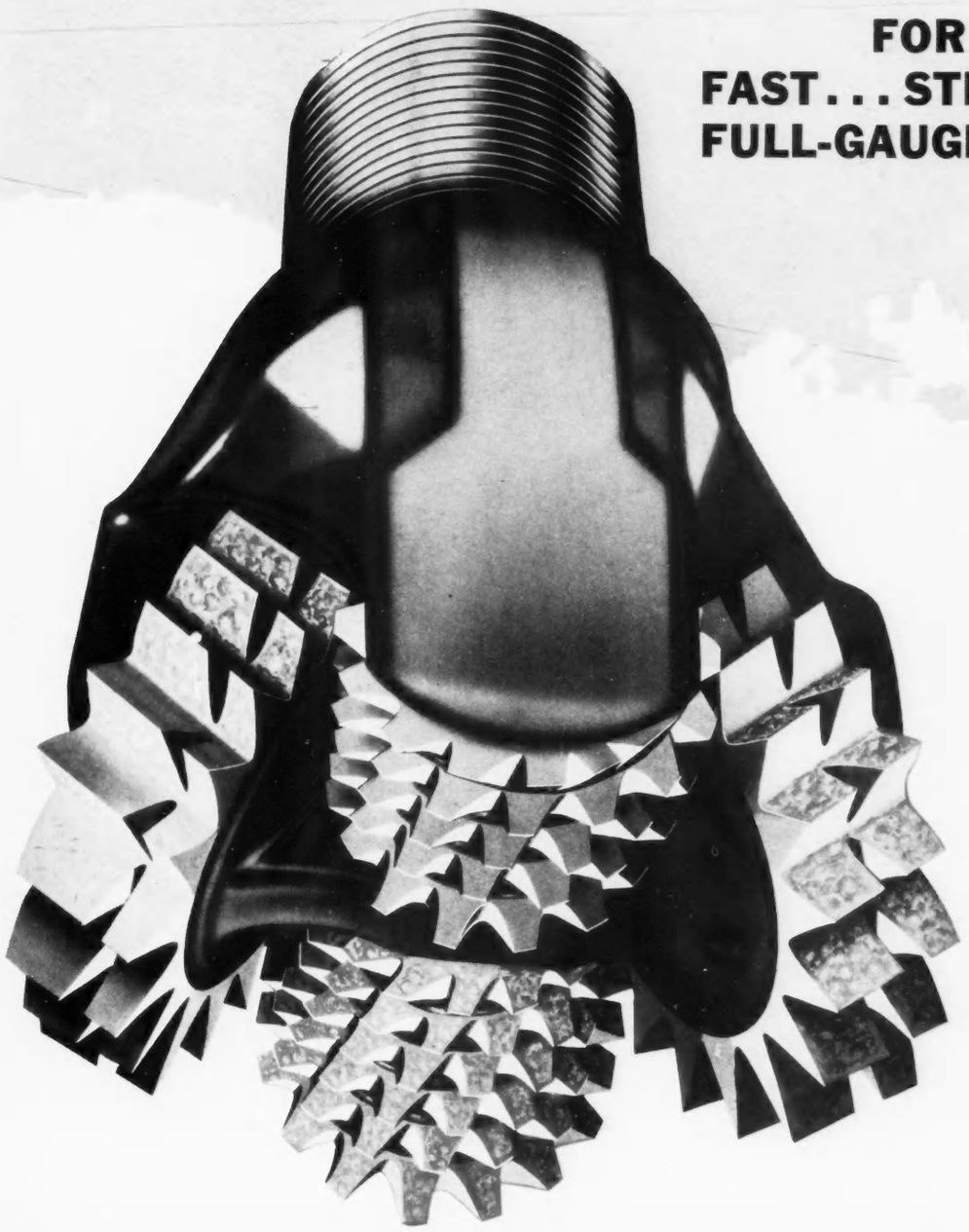

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LEGRAND*

On Tyler-Jasper County line, w of Magnolia Springs, centering around E. O. Legrand Survey. Ne of Spurger gas field. **Means of Discovery:** Geophysical work showed a fair prospect. **Extent of Development:** Alpha Petroleum Co.'s Cartwright 1, salt water sand at 5100 ft, June, 1934. **Principal Leaseholders:** Lewis Franklin and Alpha Petroleum Co.

REGANVILLE*

Eight mi e of Jasper, centering around A. J. Youngblood, T. C. Holmes, H. H. Hogh Surveys. **Means of Discovery:** Geophysics, Mid-Kansas Oil Co., 1933. **Extent of Development:** Marathon Oil Co.'s Jasper County Lumber Co. 1, quit at 5614 ft, August, 1935, in salt water sand from 3443 to 3473 ft. **Principal Leaseholder:** Marathon Oil Co.

ROCKLAND

Two mi ne Rockland; B. Addison, P. Smith Surveys. **Means of Discovery:** Surface indications. Drilling began in 1902. **Discovery Well:** First production in 1928. **Structure:** Structure rather than salt dome type. **Producing Formations:** Sand around 1275 ft, considered base of Jackson or top of Yegua. **Productive Area:** About 20 acres. **Extent of Development:** Through 1935, over 25 holes drilled, including several producers. **Deepest Hole:** Two tests drilled below 3000 ft. **Estimated Ultimate Recovery:** 85,000 bbls. **Production Through 1935:** 35,190 bbls. **Indicated Remaining Reserve:** 49,810 bbls. **Daily Production in January, 1936:** 3 wells, 10 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 21-25. **Rigs Running January, 1936:** None. **Principal Leaseholders:** East Texas Oil Co., Great Lakes Oil Co., Gulf Oil Corp., Humble Oil & Refining Co., The Texas Co., Houston Oil Co., Southern Petroleum Co.

SARAH GRAY*

Nine mi n Beaumont, w part Sarah Gray Survey, sw corner Jasper County, and extending across river into S. K. Vanmeter Survey, Hardin County; e½ of J. W. Spoeffel Survey. **Means of Discovery:** Surface indications; shallow drilling; geophysics, 1932. **Extent of Development:** Two deep tests in addition to shallow drilling. Republic Production Co.-Houston Oil Co.'s Ben Andrews Fee 1, Vanmeter Survey, abn 1932, in shale at 7420 ft. Gulf Production Co.'s Miller-Vidor 1, Gray Survey, quit at 6970 ft, early 1933. **Remarks:** David B. MacDaniels has block of 3000 acres, acquired in November, 1935. The leases were taken for five years.

JEFFERSON COUNTY

AMELIA—West Beaumont

Location: Four mi w of Beaumont, centering C. Williams and H. Williams Surveys. **Means of Discovery:** Humble Oil & Refining Co. torsion balance and reflection seismograph, 1934. Magnolia Petroleum Co., torsion balance, 1935. Reflection seismograph, Sun Oil Co., Stanolind Oil & Gas Co., 1935. **Discovery Well:** Humble Oil & Refining Co.'s Langham 1, February 12, 1936, 257 bbls in 12 hrs, 29.2 gr oil, 6778 to 6791 ft. Potential test February 15, 1936, 476 bbls 28.5 gr daily, ¼-inch choke, tubing pressure 675 pounds; casing pressure 1000 pounds. Gas-oil ratio 289 to 1. **Structure:** Deep seated salt dome. **Producing Formations:** Frio sands, 6778 to 6791 ft; well was 400 ft in formation. **Productive Area:** Discovery well. **Deepest Hole:** Humble's Willerton 1, dry 6925 ft, December, 1935. **Oil Outlet:** Humble Pipe Line Co., 6-inch. Adjacent lines leading to Beaumont-Port Arthur area. **Range of Gravity:** 28.5. **Rigs Running: March 1, 1936:** Three. **Principal Leaseholders:** Humble, Stanolind Oil & Gas Co., Tide Water Oil Co., Glenn H. McCarthy (farm out Stanolind), Magnolia Petroleum Co., Gulf Oil Corp. **Remarks:** Humble's Langham 1, established a water level at 6791 ft when a drill stem test was taken down to 6903 ft, the bottom of the hole which showed salt water.

BIG HILL

Eight mi se Hampshire; S. Eaton, E. L. & R. R. No. 373, J. L. Dyson, D. D. Dyson, and Wm. McFaddin Surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Houston Oil Co.'s Pipkin-Davis 1, March 29, 1923, 35 bbls, 1735 ft. **Structure:** Salt dome, top cap rock 200 ft (known since 1901). **Producing Formations:** Several small oil wells at 1700-1800 ft; gas at 5900-5958 ft. **Productive Area:** Only a few acres. **Extent of Development:** Through 1935, 49 tests, 3 oil, 46 dry. **Deepest Hole:** Stanolind Oil & Gas Co.'s Yount-Lee Oil Co.) Pipkin-Davis A-2, quit at 6698 ft, heaving shale, December, 1935 sand showing oil 5226 ft. **Production Through 1935:** 13,853 bbls (total). **Daily Production, January, 1936:** None. **Rigs Running March, 1936:** None. **Principal Leaseholders:** The Texas Co., Houston Oil Co., Stanolind Oil & Gas Co.

CHEEK*

M. Pivitot, W. Carr Surveys. **Means of Discovery:** Surface indications; showings in old wells; torsion balance, Cockburn Oil Corp., 1929. Gulf Production Co. and Humble Oil & Refining Co. also worked geophysically and took leases. **Extent of Development:** Four deep tests following geophysical work in addition to earlier shallow tests. Humble Oil & Refining Co.'s Nelson 1, Wm. Rice Survey, abnd 1931 at 6537 ft. Jack Schultz's O. M. Todd 1, nw corner Wm. Carr Survey, had shows of oil and gas at 3400, 4175, 5200, 5400, 5500, 5600 and 6375 ft; went into Discorbis at 6187 ft, Heterostegina at 6415 ft, and Marginulina at 6665 ft; quit at 6906 ft, June, 1932. Todd 2, 1800 ft south, reported higher structurally, also had showings; quit in heaving shale at 7355 ft, May, 1933. Jack Frazier's Oswald 1, M. Peveto Survey, quit at 7525 ft. October, 1935, in salt water sand in Frio. **Principal Leaseholders:** Magnolia Petroleum Co., Stanolind Oil & Gas Co.

FANNETT

Two and a half mi sw Fannett; J. Blackman, M. Bouse, W. H. Smith Surveys. **Means of Discovery:** Seismograph, Gulf Production Co., 1925. **Discovery Well:** Gulf's Bordages 2, January 20, 1927, 50 bbls. **Structure:** Salt dome, top cap rock 870 ft, salt 2200 ft. **Producing Formations:** Miocene sands 3250-4408 ft; Middle Oligocene 4849-5020 ft; Lower Oligocene 5608-5670 ft. **Productive Area:** About 50 acres. **Extent of Development:** Through 1935, 49 tests, 19 oil, 30 dry. **Deepest Hole:** Gulf's Bordages 8, dry, 6661 ft, 1930. **Estimated Ultimate Recovery:** 3,500,000 bbls. **Production Through 1935:** 1,603,624 bbls. **Indicated Remaining Reserve:** 1,896,376 bbls. **Daily Production in January, 1936:** 14 wells, 687 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 31-38. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** Gulf Oil Corp.

GILBERT RANCH*

Seven mi s of China, centering I. B. Pipkin, Wm. McFarland, T. & N. O. Sections 63, 74 and 75. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1934. Geophysical work was done by Humble Oil & Refining Co. **Principal Leaseholder:** Sun Oil Co. (11,000 acres). **Remarks:** Humble Oil & Refining Co. has lease on over 7000 acres of the S. W. Pipkin land s and e of Big Hill field and scattered through the s central portion of the county.

HAMSHIRE*

Northwest Hamshire, T. & N. O. Section 86. **Means of Discovery:** Seismograph, Shell Petroleum Corp., 1928; later checked by torsion balance. **Extent of Development:** Shell's Heisig 1, abnd 7305 ft in 1929; had oil show at 5000 ft and another slight show at 7100 ft. **Remarks:** S of this prospect Gulf Production Co. acquired 3500 acres in September, 1934. Marrs McLean has 3000 acres in this area up to Fannett field. (See Winnie prospect.)

JEFFERSON COAST*

Eight mi s Big Hill dome, T. & N. O. Sections 367, 368, 369, 370. **Means of Discovery:** Humble Oil & Refining Co., seismograph, 1932. **Extent of Development:** Humble Oil & Refining Co.'s B. White 1 quit at 2567 ft, heaving shale, October, 1935. McFaddin 1 in November, 1935, abnd 6097 ft. in heaving shale. **Principal Leaseholder:** Humble Oil & Refining Co.

LA BELLE*

Twelve mi sw Port Arthur, T. & N. O. 208, B. Blackmon, A. Hotchkiss Surveys. **Means of Discovery:** Torsion balance, Vacuum Oil Co., 1929. Checked negative by seismograph after test was drilled. **Extent of Development:** Vacuum's Broussard & Hebert 1, abnd 1929, in shale at 5673 ft. Sun Oil Co.'s Hebert Broussard 1 dr heaving shale 8824 ft, pb 8061 ft, redrilled 8318 ft, sdtr at 8099 ft, pb 7340 ft, set whipstock, was milling 7403 ft, March, 1936. A sand with an odor of oil and gas was encountered from 8237 to 8265 ft; made salt water and a good showing of gas; at 8377 ft another gas odor; 8329 to 8339 ft tried to blow out, and again at 8739 ft after topping a sand at 8729 ft, in Frio. **Principal Leaseholder:** Sun Oil Co. (5500 acres). **Remarks:** N of this prospect and around Lovell's Lake. C. C. McSpaddin acquired around 4000 acres in November, 1935. Magnolia Petroleum Co. took a 90-day geophysical option on 5500 acres, October, 1935, of the Hebert Broussard fee, e of Sun Oil Co.'s Hebert Broussard 1.

LITTLE PINE ISLAND*

Centering around T. & N. O. Section 70, Jefferson County, and J. M. Duran Survey, Chambers County. **Means of Discovery:** Torsion balance, Glenn H. McCarthy, Inc., 1935. **Extent of Development:** Glenn H. McCarthy's Howth 1, T. & N. O. Section 70, quit at 8015 ft, January 20, 1936; showings of oil and gas. **Principal Leaseholders:** Glenn H. McCarthy, Inc., Sun Oil Co., Gulf Oil Corp. **Remarks:** Closely ties in with Winnie prospect.

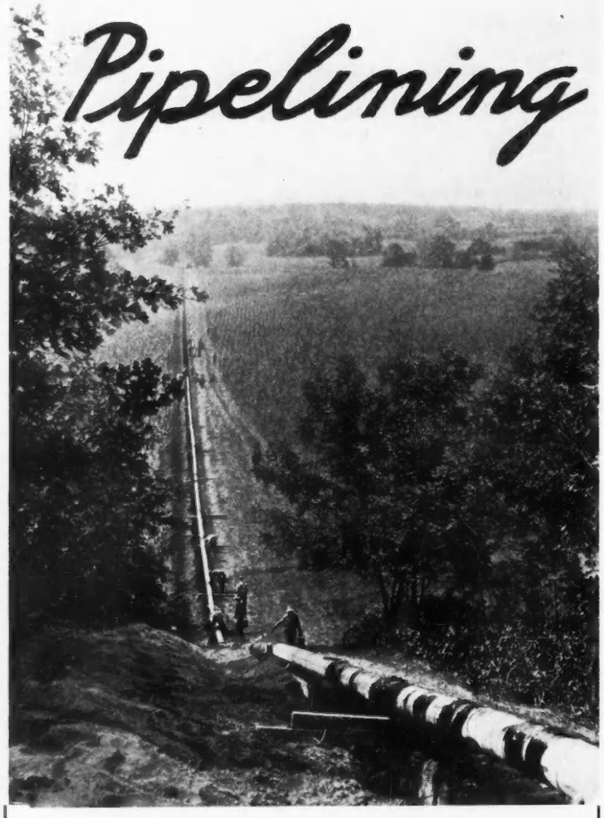
McFADDEN RANCH*

Ten mi w Sabine City; E. McKnight and adjacent Surveys. **Means of Discovery:** Seismograph, Shell Petroleum Corp., 1928. Humble Oil & Refining Co. also showed prospect favorably by geophysics. Shell torsion balance in 1925 had failed to give dome indications. Only Shell and Humble showed this prospect as a dome. **Extent of Development:** Humble's McFadden 1, T. & N. O. Section 234, abnd in 1931, at 7663 ft in shale.

NOME*

Three mi se Nome, centering around T. & N. O. Section 32 and B. & C. Section 1. **Means of Discovery:** Surface indications; torsion balance, Sun Oil Co., 1932. **Extent of Development:** Sun Oil Co.'s Paggi 1 yielded two joints 28 gravity oil but very little gas, from 6003-6023-foot sand on drill stem test, and failed to produce when casing was run and screen set, only giving slight shows of oil after swabbing dry. Hole was then carried to 7277 feet, finding no more shows, and abnd December, 1933. One mile sw of Paggi test, The Texas Co.'s J. R. Bevil 1, Burr & Caswell Survey No. 1, quit at 6402 feet, December, 1933, after encountering slight show of oil at 6182-6194 ft. Sun Oil Co.'s Long 1, John Blair Survey, was spudded in December, 1933, and quit after drilling to 9045, April, 1935. Yielded some oil and showed gas pressure as high as 750 pounds on several drill stem tests, 5963 to 6072 ft; also had several small oil shows around 6400 ft. Salt water was swabbed from 6000 ft. The casing pressure was 800 pounds; tubing 1000 pounds. Several settings were made from 8407 to 8697 ft and salt water was swabbed. Later the well was finished as a dry hole. **Principal Leaseholders:** Sun Oil Co.

•Prospect. †Salt dome, no production. ‡Gas field.



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SPINDLE TOP

Two mi s Beaumont; Jno. A. Veatch, P. Humphrey, J. Douthit Surveys. **Means of Discovery:** Elevation, gas, mineral waters. **Discovery Well:** J. F. Lucas' Gladys 1, 84,000 bbls, 1139 ft, Jan. 19, 1901. **Structure:** Salt dome, top cap rock 700 ft, salt 1200 ft. **Producing Formations:** Cap rock and Miocene sands 800-1200 ft; Miocene 2500-3500 ft; Oligocene-Lower Oligocene 4000-5879 ft. **Productive Area:** About 425 acres. **Extent of Development:** Through 1935, partly estimated, 1650 tests, 1340 oil, 310 dry; operators are working over several of the wells. **Deepest Hole:** Yount-Lee Oil Co.'s Gladys City 6, dry at 6765 ft. **Estimated Ultimate Recovery:** 140,000,000 bbls. **Production Through 1935:** 122,175,009 bbls. **Indicated Remaining Reserve:** 17,824,991 bbls. **Daily Production in January, 1936:** 155 wells, 2392 bbls. **Oil Outlet:** Stanolind Pipe Line Co.; Humble Pipe Line Co., 8-in; Texas Pipe Line Co., 12-in; Atlantic Pipe Line Co., 10-in; Gulf Pipe Line Co., 10-in; Sun Pipe Line Co.; Sinclair Prairie Pipe Line Co., 8-in; Pure Pipe Line Co. **Range of Gravity:** 27-31. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Stanolind Oil & Gas Co., Gulf Oil Corp., Magnolia Petroleum Co., Rio Bravo Oil Co., The Texas Co., Sun Oil Co. **Remarks:** First oil discovery in Gulf Coast.

TOLIVER*

South of Pine Island Bayou, centering around S. Morris Survey. **Means of Discovery:** Old surface prospect; gas in bayou; torsion balance, Earl Hankamer, 1934. **Extent of Development:** Turnbull & Irwin's Toliver 1, dry at 5573 ft, August, 1934. Navarro Oil Co.'s Toliver 1, dry at 4840 ft, 1934. K. Keith's Hankamer 1 quit at 5029 ft, May, 1930. **Principal Leaseholders:** Miramar Oil Co., Navarro Oil Co., Stanolind Oil & Gas Co.

LIBERTY COUNTY

CLEVELAND

Four mi se Cleveland. John Pleasants, C. Smith, T. Devers Surveys. **Means of Discovery:** Surface indications; Humble Oil & Refining Co., said to have found encouragement with torsion balance in 1931; Gulf Production Co., also did geophysical work resulting in acquisition of large lease block. **Discovery Well:** Gulf Production Co.'s Kirby Lumber Co. 1, nw corner John Pleasants Survey, 50 barrels 41 gravity oil per hour through a three-eighths-inch choke, from upper Cockfield sand, 5716-5724 ft, December 29, 1933. **Structure:** Regarded as similar to other Conroe trend structures, such as Conroe, Tomball, Raccoon Bend, Livingston; that is, deep seated dome, possibly over salt mass. **Producing Formations:** Upper Cockfield sands at 5716-5724 ft; 5829-5870 ft, and several wells had showings of oil and gas from 5500-5700 ft. **Productive Area:** About 350 acres. **Extent of Development:** Through 1935, 16 tests, 11 oil, 5 dry. **Deepest Hole:** Gulf Production Co.'s Kirby C-2, 1866 ft s of discovery well, after going into Cook Mountain formation around 7000 ft, drilled to 8735 ft; plugged back to 5600 ft and drilled to 5890 ft, and completed as oil producer, July, 1934. **Estimated Ultimate Recovery:** 2,500,000 bbls. **Production Through 1935:** 413,960 bbls. **Indicated Remaining Reserve:** 2,086,040 bbls. **Daily Production in January, 1936:** 8 wells, 828 bbls. **Oil Outlet:** Gulf Pipe Line Co., Shell Pipe line Co. **Range of Gravity:** 41. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp. has 14,000 acre block, almost solid, which will probably embrace large proportion of productive area; Black Gold Corp.

DAVIS HILL†

Sixteen mi n Liberty, Santos Coy and J. D. Martinez Nos. 6 and 9 Surveys. **Means of Discovery:** Elevation, gas, broken surface. **Structure:** Salt dome; top of cap rock 800 ft, salt 1200 ft. **Extent of Development:** Through 1935, total 44 tests, all dry holes. **Deepest Hole:** The Texas Co.'s Havard 1, 5160 ft. **Principal Leaseholder:** The Texas Co. **Remarks:** Only production has been that found in non-commercial quantities around 1000 ft. H. C. Cockburn et al acquired around 1000 acres on the nw flank of dome. The area was worked with reflection and torsion balance.

DEVERS*

North part M. Whittington Survey, 1½ mi n Devers. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1929. **Extent of Development:** Humble's Sabine Tram 1, Whittington Survey, abnd 5801 ft in 1930; no shows reported: **Principal Leaseholders:** Woodley Petroleum Co., The Texas Co.

ESPERSON

Six mi sw Dayton, C. W. Fisher, D. L. Kokernot, M. Duncan, O. G. Gigstradt, A. M. Damron and C. C. Brunson Surveys. **Means of Discovery:** Torsion balance, Union Exploration Co., 1928. **Discovery Well:** Harvey S. Smith's Moores Bluff Corp. 1, 800 bbls, 3304-3320 ft, Aug. 15, 1929. **Structure:** Salt dome, top salt 7055 ft. (See deepest hole.) **Producing Formations:** Miocene sands 2275-2390 ft; 2975-96 ft, and 3250-3350 ft; sands 3950-4460 ft; Jackson sands 5707-5752 ft, 5860-5872 ft, 6707-7077 ft; Upper Saline Bayou sands 7346-7624 ft. **Productive Area:** About 400 acres. **Extent of Development:** Through 1935, 54 tests, 37 oil, 3 gas, 14 dry. **Deepest Hole:** General Crude Oil Co.'s Kay 1, M. Duncan Survey, drilled to 9325 ft in salt. **Estimated Ultimate Recovery:** 9,000,000 bbls. **Production Through 1935:** 3,550,983 bbls. **Indicated Remaining Reserve:** 5,449,017 bbls. **Daily Production in January, 1936:** 29 wells, 1127 bbls. **Oil Outlet:** Sun Pipe Line Co., 6-in; American Pipe Line Co., 6-in. **Range of Gravity:** 22-55. **Rigs Running January 1, 1936:** Three. **Principal Leaseholder:** General Crude Oil Co.

FELECIA*

Centering around R. Burrell, T. & N. O. Sections 12 and 13, 3½ mi se of Devers. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., February, 1935; Humble Oil & Refining

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GRAY-KEROTEST

Gray Tool Co. Houston Texas.

Kerotest Mfg. Co. Pittsburgh, Pa.

Co., 1934. Shell Petroleum Corp., Sun Oil Co., Independent Exploration Co. have worked in the area with geophysical instruments. **Principal Leaseholders:** Shell Petroleum Corp., Humble Oil & Refining Co., Stanolind Oil & Gas Co., Gulf Oil Corp., Sun Oil Co.

HANKAMER

Seven and a half mi s Devers, Levi Barrow, Geo. Strangler, A. Allen, A. Weaver and H.&T.C. 21 and 22 Surveys. **Means of Discovery:** Mineral waters. Torsion balance, Gulf Production Co., 1926-1928. **Discovery Well:** Gulf's Boyt 1, second test of area, H. & T. C. Section 22, flowed 700 bbls 20 gravity oil, 2674 ft, June 6, 1929. **Structure:** Salt dome, top salt 7582 ft. (See deepest hole.) **Producing Formations:** Miocene sands around 2561-2671 ft; other sands around 2900, 3600, 3800, 4000 to 4400, 4550, 4800 and 4900 ft. (Numerous lenticular sands, different gravities of oil.) Lower Marginulina-Frio sands at 5071 to 5162 ft. Several wells had showings of oil from 5670-5709 ft. **Productive Area:** About 375 acres. **Extent of Development:** Through 1935, 45 tests, 33 oil, 12 dry. **Deepest Hole:** Gulf's Bingle 1, se flank, tested oil 4616-4660 ft, and encountered several showings of oil down to 7681 ft., topped salt and drilled four ft of this formation; pb to 5150 ft and completed as a producer, 1935. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through 1935:** 3,560,235 bbls. **Indicated Remaining Reserve:** 3,939,765 bbls. **Daily Production in January, 1936:** 25 wells, 1818 bbls. **Oil Outlet:** Gulf Pipe Line Co., 8-in. **Range of Gravity:** 16-30. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** Gulf Oil Corp., Sterling Oil & Refining Co., Cretaceous Oil Co., Wilson Broach Oil Co.

HARDIN

Three mi n of Hardin, centering J. Robeson Survey. **Means of Discovery:** Surface geology, Jack Frazier later checked by torsion balance and reflection seismograph; Gulf Production Co. worked the area with pendulum. **Discovery Well:** Jack Frazier's Lynott Buffon 2, July 23, 1935, 25 bbls per hour from 7685 ft after pb from 7851 ft. **Structure:** Regarded as deep seated salt dome. **Producing Formations:** Epondiz Yeguaensis (Upper Saline Bayou), from 7665 to 7685 ft. **Productive Area:** Only the discovery well. **Extent of Development:** Through 1935, 2 tests, 1 oil, 1 dry. **Deepest Hole:** Discovery well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** 54,584 bbls. **Indicated Remaining Reserve:** 945,416 bbls. **Daily Production January, 1936:** 1 well, 336 bbls. **Oil Outlet:** Magnolia Pipe Line Co., 4-in. **Range of Gravity:** 36.8 **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Jack Frazier, Humble Oil & Refining Co., Gulf Oil Corp., Atlantic Oil Producing Co., Amerada Petroleum Corp., Magnolia Petroleum Co., Shell Petroleum Corp., Sun Oil Co., Crown Central Oil Co., Bishop Oil Co., Fohs Oil Co., L. W. Wicks, Mills Bennett Production Co., Turnbull & Irwin, Tide Water Oil Co., The Texas Co., Stanolind Oil & Gas Co., Skelly Oil Co. **Remarks:** Atlantic & Bracey have made lcn for a test 3500 ft n of discovery well.

HEISKELL*

Nine mi s Liberty; Joseph Dugat, Theodore Dorsett Surveys. **Means of Discovery:** Torsion balance, Rycade Oil Corp., 1930; also later used seismograph. Reflection seismograph, Humble Oil & Refining Co., 1936. **Extent of Development:** Rycade's Heiskell 1, Dugat Survey, abnd 5930 ft in hard sand late in 1930; no shows reported, but company continued holding leases. **Remarks:** Pure Oil Co. is reported to have leased in the area. Humble Oil & Refining Co. took geophysical option on 10,000 acres along with commercial leases on 6000 acres, November, 1935.

HULL

At Hull, Jesse Devore, S. Wickliff, I.&G.N. 27 and 28, and Chas. Underton Surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Republic Production Co.'s Fee 3, July 26, 1918, 1000 bbls, 1200 ft. **Structure:** Salt dome, top cap rock 350 ft, salt 700 ft. **Producing Formations:** Several wells pumping oil below the top of the cap rock at 400-450 ft. Miocene, Oligocene, Jackson and Claiborne sands at 1400 to 5475 ft. Sands discovered in 1933 at 4000 to 5228 ft identified as Jackson and Yegua. **Productive Area:** Around 725 acres. **Extent of Development:** Through 1935, 875 tests, 700 oil, 165 dry. **Deepest Hole:** Miramar Corp.'s Phoenix 4B, dry at 6675 ft, June, 1934. **Estimated Ultimate Recovery:** 100,000,000 bbls. **Production Through 1935:** 79,996,891 bbls. **Indicated Remaining Reserve:** 20,003,109 bbls. **Daily Production in January, 1936:** 181 wells, 6160 bbls. **Oil Outlet:** Humble Pipe Line Co., 6-in; American Pipe Line Co., 6-in; Sun Pipe Line Co., 6-in; Gulf Pipe Line Co., 8-in. **Range of Gravity:** 17-45. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Gulf Oil Corp., Republic Production Co., The Texas Co., Magnolia Petroleum Co., Empire Gas & Fuel Co., Phoenix Development Co., Mecom Oil Co., Houston Production Co., Humble Oil & Refining Co., Eclipse Oil Co., Miramar Corp., Sun Oil Co., Stanolind Oil & Gas Co.

KENEFICK*

Two mi e Kenefick station, centering in Reason Green Survey. **Means of Discovery:** Gas seeps, geophysics, 1933. **Extent of Development:** C. S. Thomas and associates' A. H. Eicke 1 showed salt water and was abnd 5334 ft, October, 1934. **Principal Leaseholders:** C. S. Thomas, Walter Thomas, O. C. Tatum and J. E. Sedberry.

KENO-EXCELSOR*

Northeast of Cleveland, centering w of H. & T. C. Section 105, in H. & T. C. Section 103, San Jacinto County. **Means of Discovery:** surface and subsurface geology; geophysics. **Extent of Development:** A. L. Maxwell's Hincliff 1, H. & T. C. Section 105, quit at 5574 ft, 1935. Reported oil sands from 5434 to 5457 ft. Salt water sand was found at 5556 ft. Peveto & Mayo's Palmer 1, J. S. Fenner Survey, abnd 6002 ft, September, 1935. The above two wells with several surrounding dry holes in San Jacinto County showed the existence of a high in the area and influenced geophysical campaign. Cockburn Oil & Temple Hargrave's Cruse 1, dry at 5450 ft, February, 1936, salt water sands found in Cockfield. **Principal Leaseholders:** A. L. Maxwell, H. R. Cullen, Crown Central Oil Co., Sun Oil Co.

*Prospect. †Salt dome, no production. ‡Gas field.

MARTHA*

Northwest of Liberty, centering the town of Martha, around the G. C. & S. F. Section 789 and B. Pruitt Survey. **Means of Discovery:** Geophysical work, Stanolind Oil & Gas Co. and Continental Oil Co., 1935. **Principal Leaseholders:** Stanolind Oil & Gas Co., Continental Oil Co., Sun Oil Co., Kirby Petroleum Co., Pan-American Production Co. **Remarks:** Due to high rentals which were paid in this area it is generally believed that the block will be drilled in 1936.

MOSS BLUFF

Ten mi se Liberty. B. M. Spinks, R. O. W. McManus, Jean Barry, N. D. Labadie and James McFaddin Surveys. **Means of Discovery:** Seismograph, Gulf Production Co., 1926. **Discovery Well:** Humble Oil & Refining Co.'s Sterling 6, Dec. 30, 1929, 800 bbls 32 gravity oil from sand at 5500-5666 ft. **Structure:** Salt dome, top cap rock 650 ft, salt 1170 ft. **Producing Formations:** Sand above cap rock 781-787 ft; Middle Oligocene sands 5500-5860 ft. **Productive Area:** About 15 acres. **Extent of Development:** Through 1935, including number of sulphur tests, drilled into cap rock, 59 tests, 5 oil, 54 dry. **Deepest Hole:** Gulf's McFaddin A-4, se flank, abnd when drill pipe was stuck in sticky shale at 7375 ft in 1932. **Production Through 1935:** 210,265 bbls (field abnd.). **Daily Production in January, 1936:** None. **Oil Outlet:** Humble Pipe Line Co., 6-in. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp., Humble Oil & Refining Co., Pure Oil Co., Shell Petroleum Corp.

NORTH DAYTON

Seven mi nw Dayton. H.&T.C. R.R. Sections 118, 119, 120, 124, 125 and 135. **Means of Discovery:** Elevation, gas, indications. **Discovery Well:** Paraffin Oil Co.'s Fee 3, Sept., 1905, 5000 bbls, 800 ft. **Structure:** Salt dome, top cap rock 600 ft, salt 800 ft. **Producing Formations:** Cap rock and Miocene sands at 400 to 1100 ft; Oligocene sands at 4075 to 5188 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 173 tests, 70 oil, 103 dry. **Deepest Hole:** Harvey S. Smith et al's Kynerd 1, west flank, Sec. 31, dry at 5700 ft, December, 1930. **Estimated Ultimate Recovery:** 2,500,000 bbls. **Production Through 1935:** 2,205,-981 bbls. **Indicated Remaining Reserve:** 249,019 bbls. **Daily Production in January, 1936:** 10 wells, 175 bbls. **Oil Outlet:** Sun Pipe Line Co. **Range of Gravity:** 22-33. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** D. J. Harrison, Gulf Oil Corp., Humble Oil & Refining Co., The Texas Co., Sun Oil Co.

RUMAYOR*

One mi se of Rumayor, centering A. Cherry, J. F. De Rumayor Surveys. **Means of Discovery:** Torsion balance, Atlantic Oil Producing Co., Magnolia Petroleum Co., Shell Petroleum Corp. and Continental Oil Co., 1933-34. Reflection seismograph, Amerada Petroleum Corp., Magnolia Petroleum Co., and The Texas Co., 1933-34. **Extent of Development:** Magnolia Petroleum Co.'s Maco Stewart 1, dry at 5890 ft, October, 1934; cored salt water sand in Cockfield, 5588 to 5591 ft. In San Jacinto County in J. F. De Rumayor sur, Cockburn Oil Co.'s K. Moore 1 cored salt water in Cockfield, abnd 5053 ft, Febuary, 1936. **Principal Leaseholders:** Magnolia Petroleum Co., (9000 acres), Dick Schwab, Atlantic Oil Producing Co., Sinclair Prairie Oil Co.

SOUTH LIBERTY

Three mi s Liberty. M. G. White, D. Minchey, Wm. Duncan, Eliz. Munson Surveys. **Means of Discovery:** Sulphur springs, gas escapes, oil seeps. **Discovery Well:** South Liberty Oil Co.'s Pickett 2, 25 bbls, 3206 ft, Jan., 1925. **Structure:** Salt dome, top cap rock 350 ft, salt 500 ft. **Producing Formations:** Cap rock, Oligocene, Jackson and Yegua sands; around 700 to 1292 ft; 2000 to 3900 ft, and from 4743 to 4996 ft. **Productive Area:** About 230 acres. **Extent of Development:** Through 1935, 424 tests, 289 oil, 135 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Welder 1, w flank test, 4996 ft, October, 1934, discovered a new producing sand for the field. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through 1935:** 14,826,970 bbls. **Indicated Remaining Reserve:** 5,173,030 bbls. **Daily Production in January, 1936:** 51 wells, 781 bbls. **Oil Outlet:** Gulf Pipe Line Co., 8-in; Texas Pipe Line Co., 10-in; Humble Pipe Line Co., 6-in. **Range of Gravity:** 21-42. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Navarro Oil Co., Sun Oil Co., Bashara Oil Co., The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Empire Gas & Fuel Co., Magnolia Petroleum Co., Fort Bend Oil Co., Stanolind Oil & Gas Co.

WEST HARDIN*

West of Hardin field, centering around the F. Hardin, S. Strong, J. Hanney, Wm. Everett and Swail Surveys. **Means of Discovery:** Jack Frazier's Lynott Buffam 1, dry at 7511 ft, influenced buying across the Trinity river from the Hardin field. **Principal Leaseholders:** Sun Oil Co., The Texas Co.

MATAGORDA COUNTY

ASHWOOD*

Near town of Ashwood, centering around Rawls Survey. **Principal Leaseholders:** Skelly Oil Co., Humble Oil & Refining Co. and Sun Oil Co. **Remarks:** Regarded as the e portion of the Van Vleck high.

SOUTH BAY CITY

One and one-half mi se Bay City, centering around E. Hall Survey. **Means of Discovery:** Reflection seismograph, Hamman Exploration Company, 1934 and 1935. **Discovery Well:** Hamman Exploration Co.'s M. Cleveland 1, March 1, 1936, 25 bbls 38 gr oil first hour from 9361½ to 9370 ft. **Structure:** Deep seated salt dome. **Producing Formations:** Frio sands of the Oligocene from perforations 9361 to 9370 ft. **Productive Area:** Only the discovery

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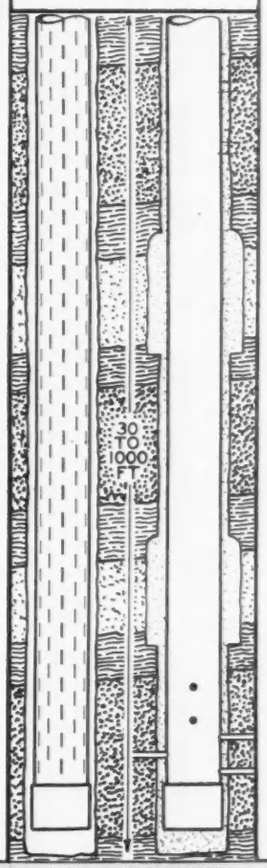
...of a Series of Gun-Perforator Applications

CEMENT BLANK LINERS IN NEW WELLS THEN,— Gun-Perforate SELECTIVELY

Diagram at left . . . . shows old "scrambled" method, with screen pipe or liner in open hole. . . . At right, modern "selective" method, blank liner cemented with lower zone Gun-Perforated.



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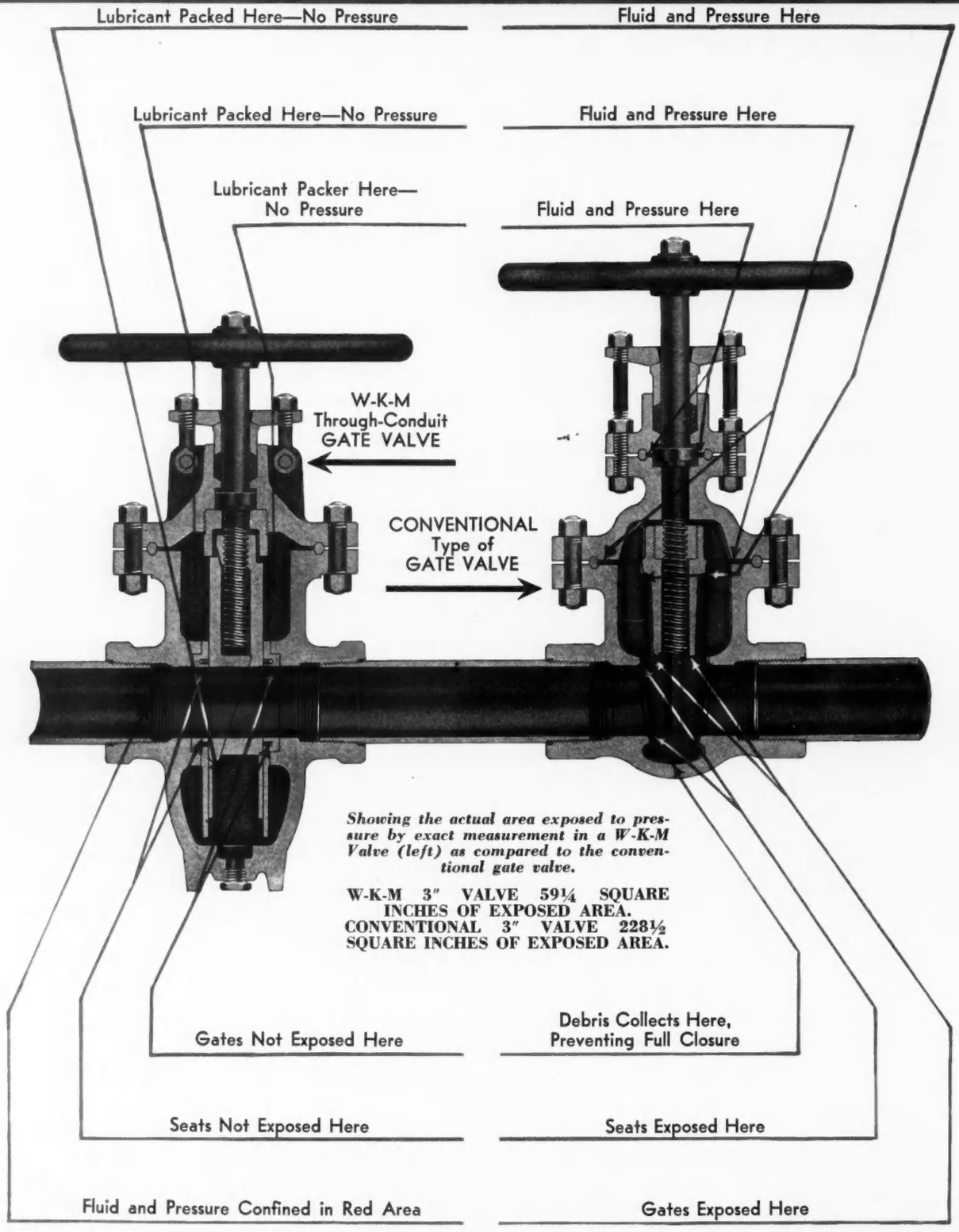

Showing the actual area exposed to pressure by exact measurement in a W-K-M Valve (left) as compared to the conventional gate valve.

W-K-M 3″ VALVE 59¼ SQUARE INCHES OF EXPOSED AREA.
CONVENTIONAL 3″ VALVE 228½ SQUARE INCHES OF EXPOSED AREA.

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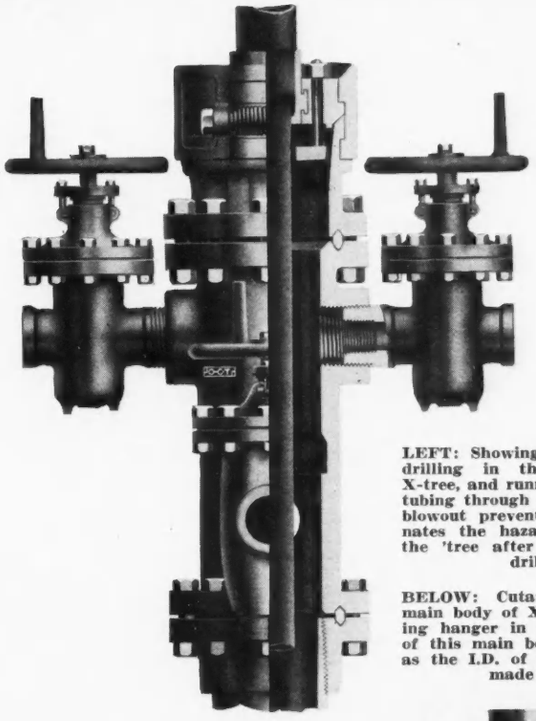
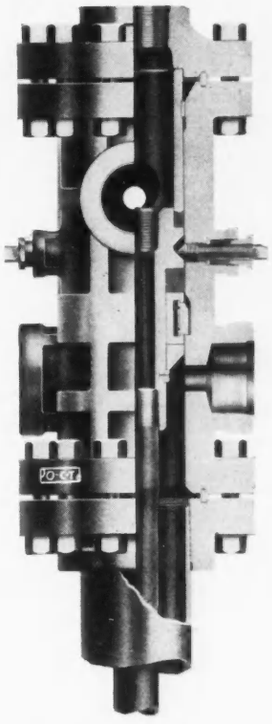
O-C-T STREAMLINE CHRISTMAS-TREES



LEFT: Showing the method of drilling in through complete X-tree, and running and landing tubing through O-C-T Type "H" blowout preventer. This eliminates the hazard of installing the 'tree after plug has been drilled.

BELOW: Cutaway section of main body of X-tree, with tubing hanger in place. The I.D. of this main body is the same as the I.D. of the casing it is made to fit.



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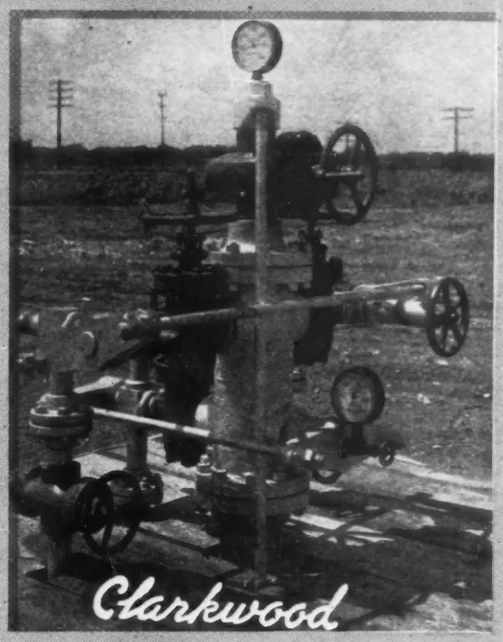
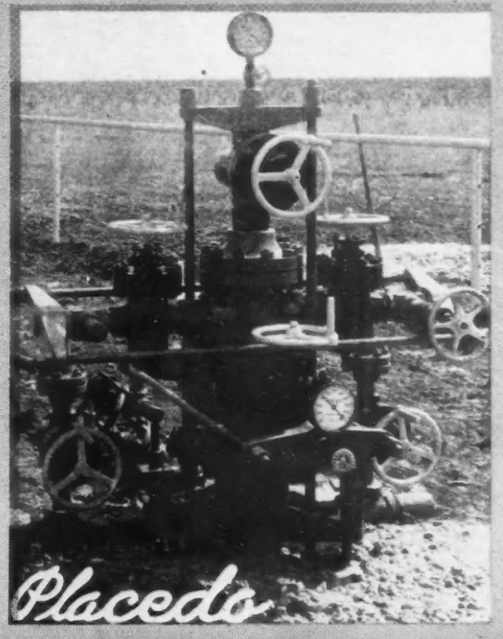
It's 75% stronger, considerably lighter, requires less space, and has fewer parts. Male thread valves screw directly into tubing head, eliminating nipples. Flow area is full opening, allowing swabbing 2½" tubing through a 2½" valve.

Note the rugged field installations at the right. We manufacture everything but the valves, which you specify.





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well. **Extent of Development:** One test. **Deepest Hole:** Hamman Exploration Co.'s M. Cleveland 1, dr to 9439 ft pb to 9414 ft, set liner from 9439 to 8039 ft, perforated with 19 holes 9361½ to 9370 ft. **Principal Lease Holders:** Hamman Exploration Co., Pan American Production Co., Turnbull & Irwin, Houston Oil Co. **Oil Outlet:** Rail. **Range of Gravity:** 35. **Remarks:** Deepest producing well in the Texas Gulf Coast and should prove up several of the deep prospects in Matagorda County.

BIG HILL—Sulphur Field

1½ mi e of Matagorda. Ira Ingram, Wm. Simpson Surveys. **Means of Discovery:** Elevation, gas, sulphur water. **Discovery Well:** Wm. Cash and W. T. Goode's Mayes Synd. 1, 1904, 100 bbls, 840 ft. **Structure:** Salt dome, top of cap rock 825 ft, salt 1100 ft. **Producing Formations:** Oil was from cap rock, as is is sulphur. **Productive Area:** Only a few acres as regards oil. **Extent of Development:** Through 1935, partly estimated, 125 tests for oil, 75 completed as oil producers, 50 dry holes. **Deepest Hole:** About 3000 ft. **Production Through 1935:** 203,580 bbls. **Daily Production in January, 1936:** Sulphur still produced, but no oil. **Rigs Running January 1, 1936:** None. **Principal Lease Holder:** Texas Gulf Sulphur Co. **Remarks:** Referred to as Gulf.

BLESSING*

Five mi e and s of Blessing, centering around J. Holmes and J. Updike Surveys. **Means of Discovery:** Gem Oil Co. and Humble Oil & Refining Co. worked the area with geophysical instruments. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** Gem Oil Co. turned its 5000-acre block to Humble.

BUCKEYE

In and around Buckeye. East portions J. C. Keller and C. Cotten Surveys. **Means of Discovery:** Surface geology. **Discovery Well:** United North & South Development Co.'s Stoddard 1, Buckeye townsite, Lot 53, completed September 13, 1932, flowing 1850 bbls 38.7 gravity oil daily through three-eighths-inch choke from sand at 7808-7926 ft. **Structure:** Regarded as very deep seated salt dome, although no dome material encountered. **Producing Formations:** Sand in Marginulina zone (basal Middle Oligocene) at 7750 to 7926 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 7 tests, 3 oil, 4 dry. **Deepest Hole:** United North & South Development Co.'s Stoddard 1, Unit 6, went to 9457 ft, May, 1934; sidetracked at 5600 ft, dr to 7902 ft, abnd July, 1934. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through 1935:** 518,383 bbls. **Indicated Remaining Reserve:** 1,481,617 bbls. **Daily Production in January, 1936:** 2 wells, 190 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 38.7. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** United North & South Development Co. **Remarks:** Field has been shut in due to legal entanglements.

CITRUS GROVE*

Four mi nw Matagorda, J. J. Criswell Survey. **Means of Discovery:** Torsion balance, North American Exploration Co., for Cockburn Oil Corp., 1930; and also checked by Shell Petroleum Corp., seismograph. Gave good torsion balance picture. **Extent of Development:** Empire Gas & Fuel Co.'s Boker 1, Lot 14, had dry gas blowout at 6248-6250 ft, November, 1930, while drilling, tested salt water at 6295 ft, cemented back to 5500 ft, and redrilled to 6460 ft. Harvey S. Smith's Boker 1, Lot 15, Robbins & Middle Subdivision, 1500 ft nw Empire test, had small gas shows around 3900 ft; abnd January, 1932, 6375 ft. Continental Oil Co.'s Boker 1, Lot 17, Robbins-Middle subdivision, blew out from 6003 ft, and abnd 6567 ft, February, 1934. Continental Co.'s Robbins 1, J. C. Franz Survey, quit at 6995 ft, in heaving shale, 1934. Top of the heaving shalt was found at 6465 ft. Continental's Feife 1, in heaving shale at 7541 ft, pb and will probably abnd, March, 1936. An odor of oil was encountered 6800 to 6845 ft. **Principal Leaseholder:** Continental Oil Co. **Remarks:** Heaving shale has been a major factor in drilling in this area and has condemned many prospects along this trend.

COLLEGEPORT*

Four mi n of Collegeport, centering around J. C. Hall, A. Farquaha and W. Hall Surveys. **Means of Discovery:** Reflection seismograph, Geo. Strake, 1934. Continental Oil Co. worked area with geophysical instruments. Humble Oil & Refining Co. worked with torsion balance, 1933. **Principal Leaseholder:** Geo. Strake. **Remarks:** Lack of interest in the area due to heaving shale.

HAWKINSVILLE†

Northeast Hawkinsville, Kingston & Powell, Thos. Williams Surveys. **Means of Discovery:** Seismograph, Gulf Production Co., 1925. **Structure:** Salt dome. Top of cap rock 100 ft, salt 600 ft. **Extent of Development:** Through 1935, total 18 tests, all dry. **Deepest Hole:** Sun Oil Co.'s Craig 1, e flank, was dr shale at 5641 ft, March, 1936. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co.

JUANITA*

Three mi e of Juanita, between Markham and Buckeye oil fields, centering around R. Graves, J. Partin and D. Etherton Surveys. **Means of Discovery:** Torsion balance, Gulf Production Co., 1933, Republic Production Co., 1934. **Principal Leaseholder:** Gulf Oil Corp. (4500 acres).

MAD ISLAND

Four mi s Collegeport, G. Wheelwright Survey. **Means of Discovery:** Torsion balance, Watts Oil Co., 1930. **Extent of Development:** Watts Oil Co.'s Titus 1, abnd in shale, July, 1930, 3509 ft. **Remarks:** The Texas Co. has a 90-day geophysical option on the S. V. Le Tulle land, being around 15,000 acres adjoining and w of Mad Island prospect.

*Prospect. †Salt dome, no production. ‡Gas field.

MARKHAM

Three mi nw Markham, Wm. Hadden, Hny. Parker Surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Hardy Oil Co.'s Hudson 1, 3600 bbls, 1734 ft, Jan. 6, 1908. **Structure:** Salt dome, top cap rock 1500 ft. **Producing Formations:** Sands at 936, 1900, 2350, 3200, 3400, 3600, 3800, 4106 and 4350 ft. **Productive Area:** About 175 acres. **Extent of Development:** Through 1935, total 255 tests, 123 oil, 132 dry. **Deepest Hole:** C. B. Hamill's Elkins 2, abnd in heaving shale, 6044 ft, June, 1932. **Estimated Ultimate Recovery:** 8,500,000 bbls. **Production Through 1935:** 5,367,896 bbls. **Indicated Remaining Reserve:** 3,132,104 bbls. **Daily Production in January, 1936:** 26 wells, 1080 bbls. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Range of Gravity:** 23-27.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Rycade Oil Corp., Ike Laughlin et al, E. M. Hamill, C. B. Hamill, Humble Oil & Refining Co., Jno. Deering, L. P. Smith, The Texas Co., United North & South Development Co., Powers Prod. Co., Harrison & Abercrombie.

MATAGORDA*

North of Matagorda, centering around Selkirk Island. **Means of Discovery:** Gas shows in Colorado river; geophysical work, 1934-35. **Principal Leaseholders:** Sun Oil Co., Humble Oil & Refining Co., Stanolind Oil & Gas Co., The Texas Co., Gulf Oil Corp., **Remarks:** Also known as Wild Cow Island.

MIDFIELD*

Centering around I. & G. N. Section 11 and P. J. Poole Survey, 3½ mi nw Midfield. **Means of Discovery:** Torsion balance, reflection seismograph, The Texas Co., 1934. **Principal Leaseholders:** The Texas Co., (4500 acres), Marathon Oil Co. (9500 acres).

NORTH MARKHAM*

Six mi n of Markham, centering around W. A. Hurd Survey. **Means of Discovery:** Torsion balance, H. C. Cockburn, 1934. Reflection seismograph, Texas Gulf Production Co., Texas Louisiana Co., 1935. **Principal Leaseholders:** H. C. Cockburn, Texas Gulf Production Co. **Remarks:** H. C. Cockburn assigned 15,000 acres to Texas Gulf Production Co.

PALACIOS*

Two mi nw of Palacios, centering around L. Goodwin, S. Perkins and R. Lander Surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1934; torsion balance, Republic Production Co., 1934. **Principal Leaseholders:** Sun Oil Co., Geo. Strake, Houston Oil Co., Republic Production Co., Hill & Hill, Lucius Horn. **Remarks:** "High" centers just north of Palacios townsite. Many companies discount this area due to heaving shale found at Citrus Grove e of Palacios.

PIERCE ESTATE*

Three mi s Pledger, centering in Isaac Foster Survey. **Means of Discovery:** Showed negative in geophysical work by Humble Oil & Refining Co., 1932; but Humble and Gulf Production Co., holding 10,000-acre block, drilled two deep tests despite geophysical evidence. **Extent of Development:** Humble and Gulf's Pierce Estate 1, near center of nw line Isaac Foster Survey, quit at 7323 ft early 1933. Pierce Estate 2, near center of sw line of Wm. C. Carson Survey, quit in shale at 8115 ft, June, 1933. No showings were reported in either and they presumably gave no encouragement with respect to depths at which formations were encountered.

SARGENT*

Four mi sw Hawkinsville dome, central portion Van Dorn and Bayless and G. Penticost Surveys. **Means of Discovery:** Surface indications; Shell Petroleum Corp. seismograph, 1929. The Texas Co. shot with reflection from Sargent to Cedar Lane the latter part of 1935. Stanolind Oil & Gas Co.'s torsion balance crew ran a line from Cedar Lane to Sheppards Mott and Wadsworth. **Principal Leaseholders:** Shell Petroleum Corp. and The Texas Co. Sw of Sargent and centering around the Baer Ranch, Sterling Oil & Refining Co. acquired around 35,000 acres in February, 1934, and was shut down on Baer 1, wildcat well, at 6010 ft in March, 1936. Se of Sargent, Kirk Hamil has a 10-year lease on 5400 acres acquired in June, 1935. **Remarks:** In the extreme se corner of the county and se of Sargent, Sun Oil Co. had a geophysical option on 10,000 acres. Humble Oil & Refining Co. and Gulf Production Co. worked the area nw of this block with torsion balance in 1932. Shell Petroleum Corp. and Humble did work in the general area with seismograph reflection the early part of 1933.

SHEPPARDS MOTT

Six mi sw Cedar Lane, D. McCarty, F. Fry, J. Dwyer Surveys. **Means of Discovery:** Surface evidence; showings in old wildcats; torsion balance, North American Exploration Co. for H. C. Cockburn, 1928. Torsion balance showed as large dome with local highs on north and south ends. **Discovery Well:** H. M. Smith Corp.'s Wadsworth 1, 5 bbls day, 39.2 gr oil from Frio sands 8852 ft, July 7, 1935. **Structure:** Deep seated salt dome, but no dome material encountered. **Producing Formations:** Lower Marginulina-Frio sands at 8852 ft. **Productive Area:** Only the discovery well has shown oil. **Extent of Development:** Through 1935, half dozen or more shallow tests, drilled prior to geophysical work; 11 deep tests drilled after geophysical work. All were unproductive except the discovery well. **Deepest Hole:** Discovery well. **Production Through 1935:** Small amount. **Daily Production in January, 1936:** 1 well, 10 bbls. **Oil Outlet:** Tanks. **Range of Gravity:** 39.2. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** H. C. Cockburn, H. M. Smith Corp., Helmerick & Payne, Stanolind Oil & Gas Co. **Remarks:** Cockburn Oil Corp.'s Hawkins 2, in December, 1930, produced about 3 bbls, 37 gravity oil in 2 days with wash water at 5244 ft, but was later abandoned at that depth on account of salt water intrusion.

CLARK "Bobcat"

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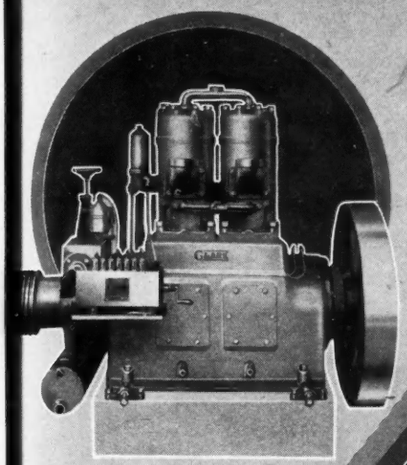

CLARK "Bobcat"
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Roller-Bearing
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For details
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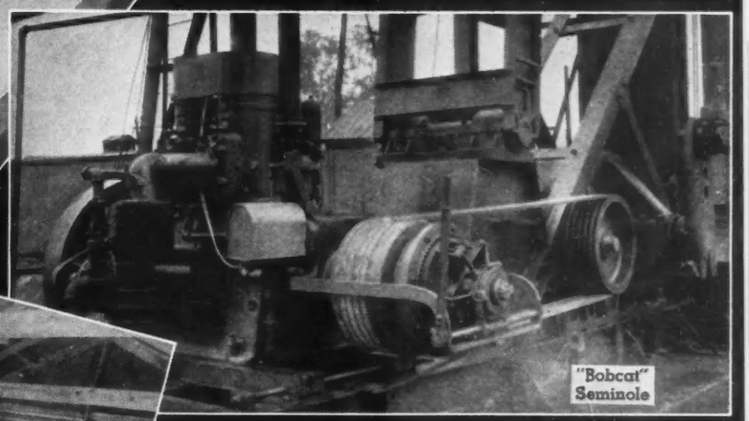
Composite
Catalog



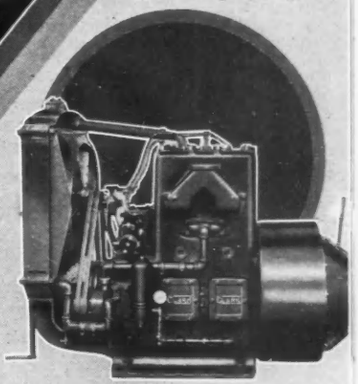
"Bobcat"
Seminole

"Bobcat"
Oklahoma City

"Bobkitten"
Oklahoma City

"Bobkitten"
East Texas

CLARK "Bobkitten"
20-30 H.P. 2-Cycle
Roller-Bearing
Pumping Engine



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Oklahoma City

"Bobcat"
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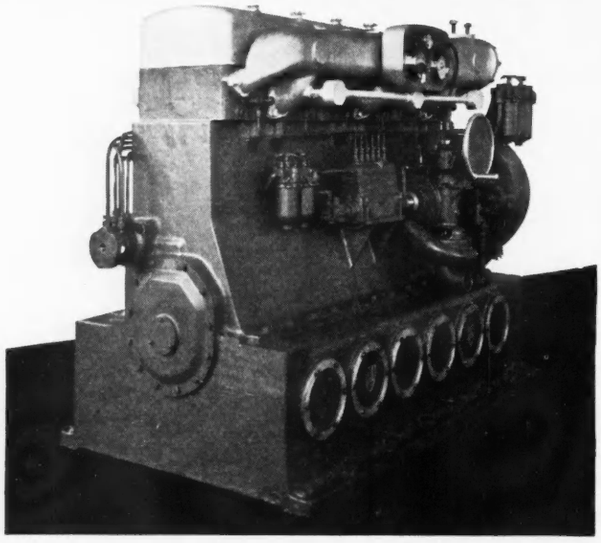

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VAN VLECK

One and a half mi nw Van Vleck, Maria Cummins Survey. **Means of Discovery:** Surface indications; old shallow wildcats; reflection seismograph, DeGolyer et al, 1932. **Discovery Well:** Skelly Oil Co.'s F. G. Cobb 1, M. Cummings Survey, 120 bbls, 49.5 gravity oil daily, three-eighths-inch choke, 7023-7076 ft, March 19, 1934; was drilled deeper and completed in sands from 7465-7468 ft, for 159 bbls daily through various size chokes, November 6, 1935. **Structure:** Probably very deep salt dome, no salt reached. **Producing Formations:** Oligocene sand at 7023-7076 ft. Marginulina sands at 7461-7468 ft, 7474-7510 ft, and Frio sands 8225-8228 ft. **Productive Area:** About 600 acres. **Extent of Development:** Through 1935, 3 producers, 1 failure. **Deepest Hole:** Skelly Oil Co.'s Cobb B-3, ne flank test, M. Cummings Survey, to 8708 ft. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through 1935:** 26,886 bbls. **Indicated Remaining Reserve:** 19,973,114 bbls. **Daily Production in January, 1936:** 3 wells, 255 bbls. **Oil Outlet:** Skelly Oil Co., 2-in line to loading rack where oil is carried away in tank cars. Phoenix Refinery takes crude from Van Vleck which is located at Bay City. **Range of Gravity:** 49.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Skelly Oil Co. and DeGolyer et al on 50-50 basis. **Remarks:** Skelly Oil Co.'s Cobb B-3, had over a half dozen showings of oil down to the bottom of the hole. Several drill stem tests were made which showed salt water. A special temperature recording device was run on the well which showed where the salt water was coming from. Sometimes referred to as Bay City field. The field has six oil sands.

WEST MARKHAM*

Seven mi w of Markham on Wharton-Matagorda County line, centering around I. & G. N. Section 21, and E. T. R. R. Section 103. **Means of Discovery:** Torsion balance, Eby & Milner, 1934. **Principal Leaseholders:** The Texas Co., Eby & Milner. **Remarks:** This block is closely connected with the Midfields area. Humble Oil & Refining Co. has a block north of this prospect in Wharton County.

MONTGOMERY COUNTY

CONROE

4 mi se Conroe; following surveys: D. W. Collis, L. W. Weeden, W. B. Bridges, Evantha Scurry, Robt. Kuykendall, Jno. Davis, W.C. RR. C. A-645, C. T. Darby, D. McIntyre, L. A. Lang, H. B. Littlefield, Jno. McHorse, I.&G.N. A-649 and 650, J. G. Watson, W. P. McComb, M. W. Real, T. C. Howell, A. McCown A-370, A. M. Folk, Theo. Slade, Jos. House A-250, G. A. West, T.&N.O. Nos. 5, 13, and 15, J. Massey, W. S. Rhodes A-764, C. B. Stewart, H. M. Crighton, S. Y. Sitton, Ransom House, W. Strickland, T. M. Wiggins, W. F. Stewart, E. C. Manning, W. S. Rhodes A-763, C. E. Granger, S. H. Bryan, W. C. C. Lynch, Alfonso Stiel, Gowan Harris, Jno. Bricker, Ashby James, T.&N.O. Nos. 3 and 9, G. W. Wagers, J. F. Springfield. **Means of Discovery:** Surface indications and "trend play" instrumental in drilling of discovery well which was in northeast part present proven area. Prior to that test geophysics had also given evidence of the structure, showing apex near center of present proven area and consequently about two mi se discovery well; hence it was thought at first that geophysical prospect might be separate from field opened by Strake. **Discovery Well:** G. W. Strake's South Texas Development Co. 1, December 13, 1931, 200 bbls gasoline and much gas, 1900 lbs closed in pressure, from sand at 4981-4991 ft. **Structure:** Very large domal structure, about six mi in diameter, possibly a deep seated salt dome although no dome material has been encountered. Has local highs, separated by saddle, on e and w sides, with oil sands arching over them; while between n and s ends several faults and a graben of large displacement run across field. **Producing Formations:** Minor oil-gas sand shortly below top of Cockfield (top zone of Yegua formation, Claiborne series of Eocene-Tertiary) around 5000 ft; and main oil sand lower in Cockfield at 5000 to 5250 ft, with depths of most wells from 5100 to 5150 ft. Oil and gas showings occur also in shallower sands. **Extent of Development:** Through 1935, 988 tests, 928 oil, 10 gas, 50 dry. (Among dry holes included are some drilled outside established limits of the field). **Productive Area:** About 17,600 acres. **Deepest Hole:** West Prod. Co.'s Foster 3, se edge of field, dry at 8018 ft February, 1936. **Estimated Ultimate Recovery:** 670,000,000 bbls. **Production Through 1935:** 56,875,950 bbls. **Indicated Remaining Reserve:** 613,124,050 bbls. **Daily Production in January, 1936:** 896 wells, 40,866 bbls. **Oil Outlet:** Tide Water Pipe Line Co., 8-in. Humble Pipe Line Co., 8-in. Channel Transport & Marketing Co., 8-in. **Range of Gravity:** 35-40. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Humble Oil & Refining Co., Tide Water Oil Co., Houston Oil Co., Republic Production Co., Strake Petroleum Corp., Brown & Wheeler, Inc., Sun Oil Co., The Texas Co., Alpha Petroleum Corp., Harrison and Abercrombie, Standard Oil Co. of Kansas. Above operators hold about 12,000 acres of productive or proven leases, and about 3000 acres additional are divided among numerous others.

DACUS*

Six mi nw Montgomery, centering around D. Roper, T. Shepherd and F. B. Wheeler Surveys. **Means of Discovery:** Surface geology, reflection seismograph, Texas Seaboard Oil Company, 1934. **Extent of Development:** Smith & Cooper's Post 1, Roper Survey, had slight oil show, 2640 ft, oil and gas shows in Cockfield around 3700 ft, but salt water at latter depth; top Cockfield 3415 ft; quit 4007 ft, June, 1934. E. M. Compton's Bennett 1, Wheeler Surveys, salt water 3156-3260 ft, quit 3601 ft, April, 1935. Wm. Thompson et al's Scott 1, showed fresh water in Hockley-ensis and Cockfield sands, dry at 3674 ft, Feb., 1936. Chapman & Smith's Delta Land 1, was dr sandy shale 2270 ft, March, 1936. Same operator's No. 2 was sd at 2501 ft, March, 1936. **Rigs Running:** Two. **Principal Leaseholder:** Gulf Oil Corp. (2500 acres).

*Prospect. †Salt dome, no production. ‡Gas field.

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DEERING*

Five mi nw Tamina, centering Henry Blood Survey. **Extent of Development:** Deering et al's Knight 1, D. F. Wilden Survey, quit at 4686 ft, 1931. Deering & Frazier's Rohlf 1, Henry Blood Survey, quit at 5650, 1933. Showers & Moncrief's Chase Bank 1, D. Garrett Survey, quit at 5521 ft, 1933. Deering & Frazier's Hicks 1, T. Taylor Survey, salt water sand in Cockfield, 5579-92 ft, quit 5592 ft, 1934. Turnbull & Irwin's Carr 1, C. Allen Survey, salt water sand in Cockfield, 5593-5613 ft, dry 5953 ft, September, 1935. Jack Frazier's Maxey 1, J. Brown Survey, dr shale 2286 ft, March, 1936. **Principal Leaseholders:** Deering & Frazier, Stanolind Oil & Gas Co., United Gas Co., Empire Gas & Fuel Co., Sun Oil Co., Showers & Moncrief, Gulf Oil Corp., H. H. Weinert, Turnbull & Irwin. **Remarks:** Also known as Tamina.

EAST MONTGOMERY*

Five mi e Montgomery, John Cronkrite and J. J. Foster Surveys. **Means of Discovery:** Surface geology; core tests, seismograph, Rycade Oil Corp., 1931. **Extent of Development:** A. H. Parson et al's Drouth 1, nw Cronkrite Survey, show gas 3850 ft, dry 4125 ft, 1932; Drouth 2, se same survey, show gas 3950 ft, small show oil, 4225 ft, dry 4450 ft, April, 1933. **Principal Leaseholder:** Rycade Oil Corp. **Remarks:** See West Conroe.

FOSTORIA*

Northwest Fostoria, centering around H. T. & B. Section 2. **Means of Discovery:** Sub-surface high reported. **Extent of Development:** Fostoria Lumber Co.'s Foster 1, dry 5580 ft, July, 1933.

GOODWIN*

One mi e Goodwin, J. Foster Survey. **Means of Discovery:** Surface geology; reflection seismograph, 1932. **Extent of Development:** Continental Oil Co. and J. Fohs' Rock Creek Lbr. Co. 1, abnd salt water sand, February, 1933.

MONTGOMERY*

Centering around town of Montgomery, J. Corner Survey. **Means of Discovery:** Reflection seismograph, Amerada Petroleum Corp., Texas Seaboard Oil Co., Humble Oil & Refining Co.; torsion balance, Shell Petroleum Corp., The Texas Co. **Extent of Development:** C. G. Reynold's Stewart 1, dry 5500 ft, 1935; Sternberger et al's F. B. Swift 1, R. R. Rogers Survey (5 mi s), quit in Cockfield, 5025 ft, no important showings, 1933. **Principal Leaseholder:** Sun Oil Co. (4500 acres). **Remarks:** Sternberger's Swift 1 was drilled on evidence of a surface high.

NICHOLS SURVEY*

Four mi n and e Goodwin, centering around T. J. Nichols Survey. **Means of Discovery:** Surface geology, seismograph, 1932. **Extent of Development:** Core tests, Lowrie & Young; Pure Oil Co. McElroy Oil Corp.'s Damuth 1, Nichols Survey, dry at 5078 ft, 1932; McWhorter 1 quit at 5610 ft, 1933. Three mi nw, in P. Hamblin Survey, McElroy's Grogan 1 quit in Cockfield, 5001 ft, 1934; 3 mi ne, in J. Sealey Survey, Mound Creek Oil Co.'s Sealey 1 quit in Cockfield salt water sand at 5009 ft, 1933. Over mi se McElroy tests, R. L. Sprinkle's E. A. Rohlfs 1, H. Prosens Survey, quit at 5105 ft before reaching Cockfield. V. E. Bolyard's Atkinson 1, Robin George Survey, had salt water 4980-95 ft in Cockfield, quit 5150 ft, 1935.

PINEHURST*

Four mi s Magnolia, S. J. McFarland Survey. **Means of Discovery:** Surface evidence induced drilling. Geophysics did not indicate salt dome, but structure indicated to southeast nearby by torsion balance, 1931. **Extent of Development:** Several shallow tests. Humble Oil & Refining Co.'s W. A. Renn 1, McFarland Survey, abnd 5634 ft, 1931. **Principal Leaseholders:** Humble Oil & Refining Co., Magnolia Petroleum Co., Shell Petroleum Corp. Humble has 3200 acres around town of Magnolia.

SPLENDORA

Near town of Splendora, embracing portions of Wm. Willis, Wm. Barker, J. Blackman, J. Cole, M. B. Lawrence, and Walker County School Lands Surveys. Seven miles east of Conroe field. **Means of Discovery:** Reflection seismograph, Tide Water Oil Co. and Darby Petroleum Corp., 1933. **Discovery Well:** Steen Drilling Co.'s Long Leaf Lumber Co. 1, Walker County School Lands Survey, near center of west line of Barker Survey, 6041 ft, plugged back and completed in Cockfield sand at 5816-5824 ft, about June 7, 1934. The well flowed 47 bbls 65 gravity distillate in 12 hours with large volume of gas, with a three-eighths-inch casing and a quarter-inch choke on tubing, and tubing pressure 2100 pounds. **Structure:** Apparently a domal structure, possibly over a deeply buried salt mass, similar in general to other structures along the so-called Conroe trend. Drilling has been limited, however, to only a few wells, and conclusive information is not available as to details of the structure. **Producing Formation:** Cockfield sand at 5816-5824 ft. **Productive Area:** Only the discovery well productive. **Extent of Development:** In 1932-1933 two wildcats were drilled within a few miles of the site of the Splendora discovery well. Three miles north Miller Production Co.'s Foster Lumber Co. 1, west end M. B. Lawrence Survey, quit at 5021 ft, late 1932. C. J. Daniel et al's Flowers (or Sailes) 1, Barker Survey, a mile east of discovery well, quit at 2200 ft, April, 1933. It was Humble Oil & Refining Co.'s Texas Long Leaf Lumber Co. 1 1½ miles north of discovery well and in same survey, abnd 6238 ft, June, 1934. Humble's Anna M. Platte 1, Wm. Barker Survey, 3000 ft east of the discovery well quit at 6055 ft after drill stem test in the Cockfield showed salt water, August, 1934. R. R. Frankle Tr.'s C. Neff 1, dry at 6037 ft, January, 1935. Paul Sanderson's Texas Long Leaf Lumber Co. 1, dry at 6452 ft, August, 1935. **Deepest Hole:** Paul Sanderson's Texas Long Leaf Lumber Co. 1, Walker County School Land Survey, Block 6, abnd 6452 ft. **Estimated Ultimate Recovery:** 250,000 bbls. **Production Through 1935:** 996 bbls. **Indicated Remaining Reserve:** 249,004 bbls. **Daily Production in January, 1936:** None. **Oil Outlet:** Trucks. **Range of Gravity:** 65. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Tide Water Oil Co., Darby Petroleum Corp., Humble Oil & Refining Co., Standard Oil Co. of Kansas, Steen Drilling Co.

*Prospect. †Salt dome, no production. ‡Gas field.

WEST CONROE*

Three mi w Conroe, centering around M. Connor and J. Pevehouse Surveys. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1934; later checked by torsion balance. **Extent of Development:** Shell Petroleum Corp.'s Creighton 1, salt water, quit in Cockfield, 5050 ft, 1934. Baker et al's Bender 1, L. H. M. Washington Survey, show oil 4750 ft, dry 4948 ft, 1934. **Principal Leaseholder:** Shell Petroleum Corp. (3000 acres). The Texas Co. and an independent operator have acreage to the north. **Remarks:** See Willis.

WILLIS*

Seven mi nw Willis, centering around J. Lindley Survey. **Means of Discovery:** Torsion balance, Stanolind Oil & Gas Co., 1929; Gulf Production Co., The Texas Co., 1933. **Extent of Development:** Sayre Oil Co.'s Delta L&T Co. 1, J. H. Truitt Survey, gas odor 3512 ft, gas and salt water, 3624-28 ft, quit in Cockfield, 5015 ft, 1934. Gholson et al's Parker 1, J. Lindley Survey, topped Cockfield at 3695 ft, oil sand 3707 ft, drill stem test, 3711-3765 ft showed oil and gas with closed-in pressure 360 pounds, later water showed up and casing pulled to repair leak, swabbing brought fluid up to 3000 ft but would not flow; shut in making estimated 15,000 ft gas, ¼-in choke, 3969 ft, August, 1935. T. T. Word's Delta L&T Co. 1, J. Hosletter Survey, salt water, 3635-53 ft in Cockfield, quit 3668 ft, August, 1935. Mid-Tex Oil Co.'s Delta L&T Co. 1, R. T. Oliver Survey, abnd salt water 4026 ft, September, 1935. Donday Oil Co.'s Trice 1, T. Gude Survey, slight oil show 3698-62 ft, dry 4132 ft, September, 1935. Geo. E. Smith's Delta L&T Co. 1, McBride Survey, dry 4228 ft, September, 1935. Chas. Gholson's T. J. Johnson 1, 2½ mi nw of Willis, W. Wier Sur., dr shale gas odor 3938 ft, March, 1936. **Remarks:** Mid-Texas Oil Co. has made lcn at Willis townsite.

NEWTON COUNTY

BUNKER HILL*

East of Bunker Hill, on Newton-Jasper County line, centering around D. B. Koger, T. M. Smith Surveys, H. & T. C. Sections 22 and 28. **Means of Discovery:** Torsion balance, reflection seismographs, Humble Oil & Refining Co., 1933-34; geophysics, Republic Production Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Republic Production Co. **Remarks:** Humble Oil & Refining Co. has lease on two blocks of Sabine Tram Co.'s land; block 1 includes H. & T. C. Sections 25 and 27; block 2, 3 mi s, in H. T. & B. Sections 13, 14, 15, 16, 17 and 18. Both blocks were worked with reflection seismograph and torsion balance, 1934-35.

BLEAKWOOD*

Three mi nw Bleakwood, centering in Henry Cochran Survey. **Means of Discovery:** Trend play; surface geology, reflection seismograph, Tide Water Oil Co. and Darby Petroleum Corp., 1934. **Extent of Development:** Tide Water Oil Co. and Darby Petroleum Corp.'s Southwestern Lumber Co. 1, salt water in Cockfield, dry 5858 ft. **Principal Leaseholder:** Republic Production Co.

DEWEYVILLE*

A. Jordan, W. Wilson and surveys to west, 2½ mi s Deweyville. **Means of Discovery:** Surface indications, core drilling. **Extent of Development:** Humble Oil & Refining Co. drilled series cores to about 1000 ft. **Remarks:** Gulf Oil Corp. (5000 acres) and Sun Oil Company (5000 acres) hold leases n of Deweyville.

GIST*

F. Stover Survey No. 4, 2½ mi se Gist. **Means of Discovery:** Surface indications. **Extent of Development:** Sun Oil Co.'s Peavy-Moore 1, Stover Survey, abnd in hard sand, 7225 ft, 1932; no showings. **Principal Leaseholder:** Sun Oil Co.

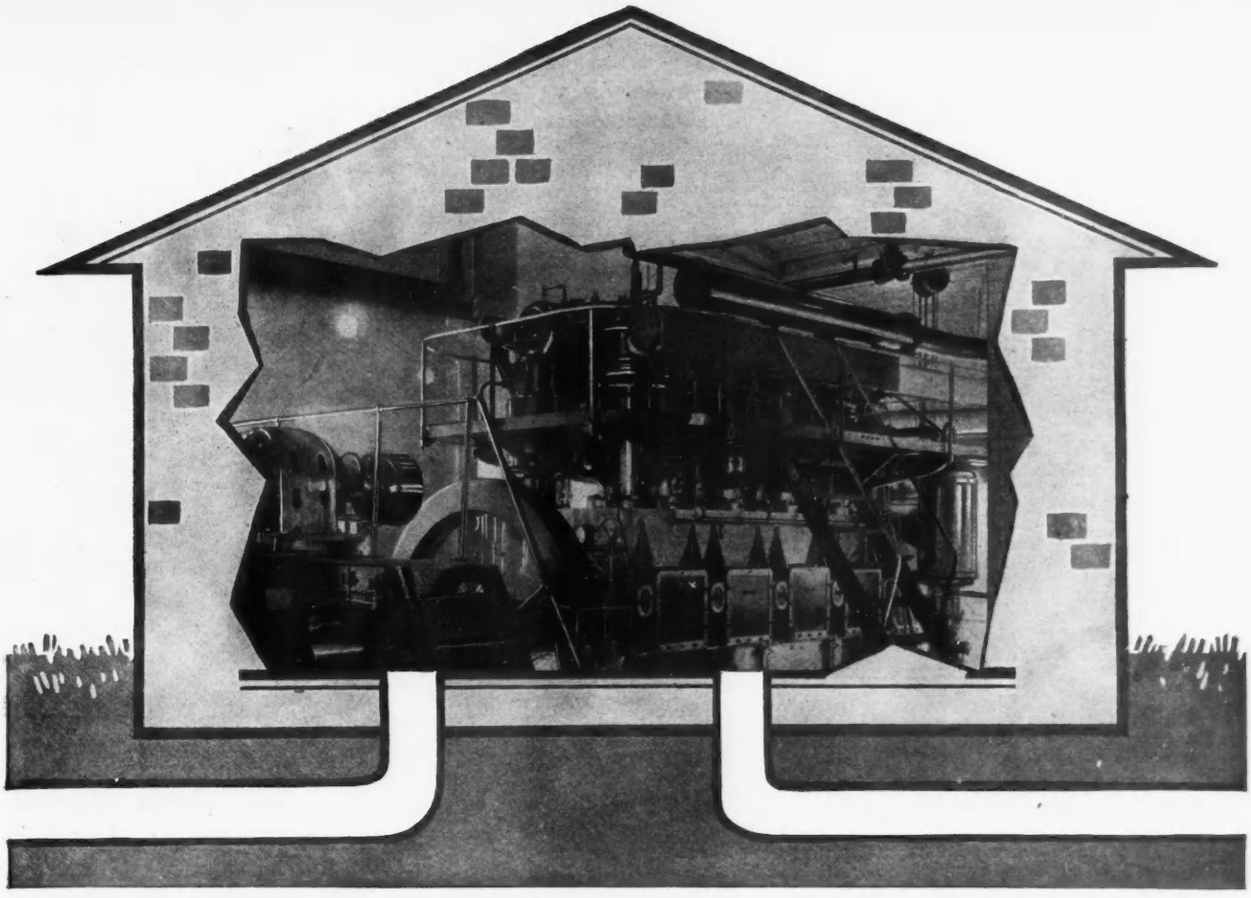
ORANGE COUNTY

NORTH VIDOR*

Nine mi ne Beaumont, E. Hurst No. 15, T. & N. O. 34, R. Wier, E. Stover, J. W. Swisher Surveys. **Means of Discovery:** Surface indications. **Extent of Development:** Houston Oil Co.'s Hurst 1, swc E. Hurst No. 15, abnd in shale, 6025 ft, 1932; no showings. E. L. Smith Oil Co.'s Miller-Vidor 1, J. W. Swisher Survey, abnd 6225 ft, 1932.

ORANGE

Six mi w Orange. Wm. Dyson, S. M. Luce, B. Garner, J. Dyson Surveys. **Means of Discovery:** Broken surface, gas escapes. **Discovery Well:** Rio Bravo Oil Co.'s Bland 1, 500 bbls, 3128 ft Aug. 13, 1913. **Structure:** No salt dome material encountered, but probably a very deep-seated dome. **Producing Formations:** Largely lenticular sands; Pliocene, Miocene and Oligocene, 2500 to 5303 ft. **Productive Area:** About 400 acres. **Extent of Development:** Through 1935, 423 tests, 318 oil, 105 dry. **Deepest Hole:** Gulf Production Co.'s Hager & Moore 12, dry at 6400 ft, January, 1934. **Estimated Ultimate Recovery:** 35,000,000 bbls. **Production Through 1935:** 31,742,370 bbls. **Indicated Remaining Reserve:** 3,257,630 bbls. **Daily Production in January, 1936:** 55 wells, 717 bbls. **Oil Outlet:** Humble Pipe Line Co., 8-in. Sun Pipe Line Co., 6-in., Gulf Pipe Line Co., 6-in. **Range of Gravity:** 22-34. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co., Brownie-Babette Oil Co., Rex Petroleum Co., Sinclair Prairie Oil Co., Humble Oil & Refining Co., Texhoma Oil Co., Orange Petroleum Co., Continental Oil Co., Rycade Oil Corp.



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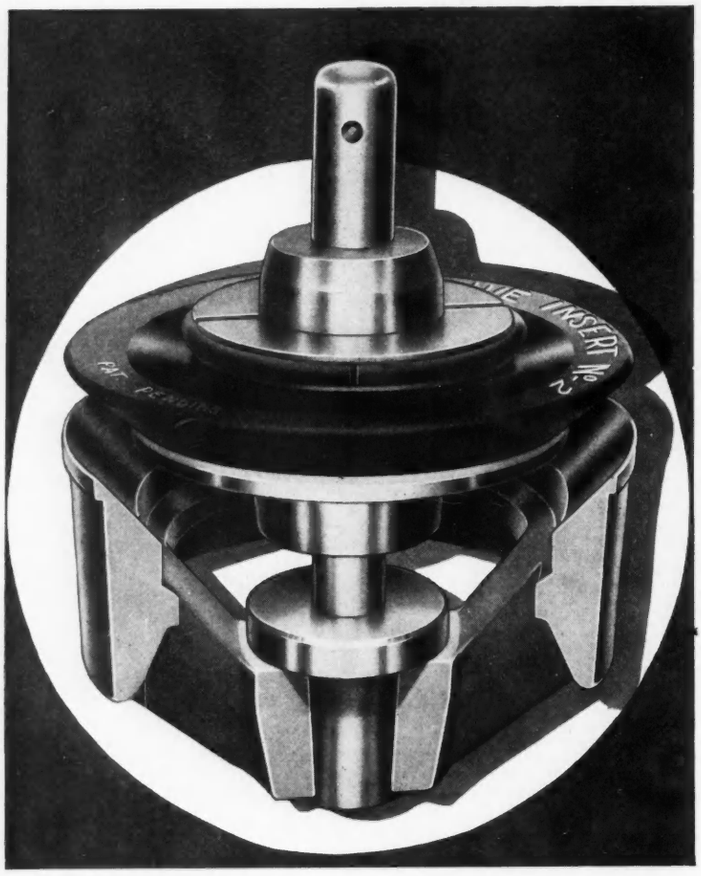

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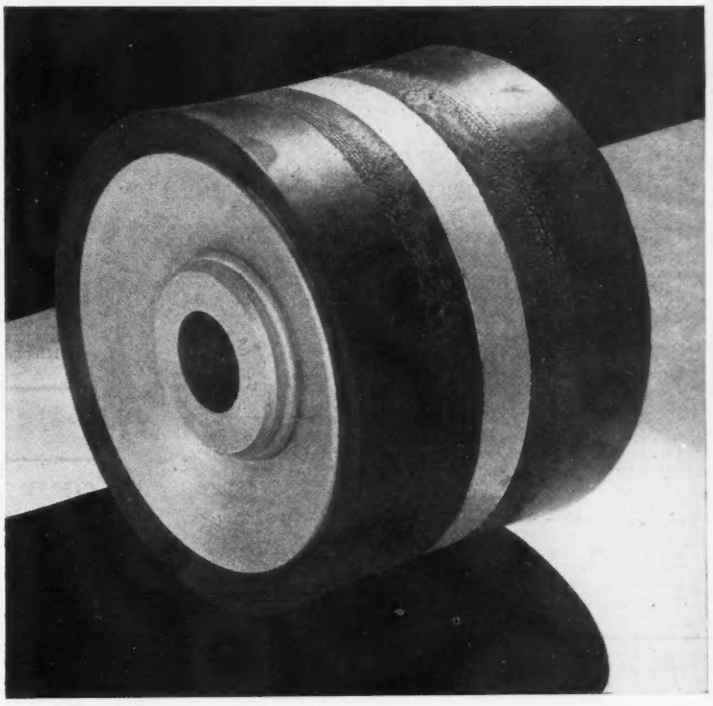

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MISSION SLIPS . . . MISSION VALVES . . . MISSION PISTONS . . . MISSION SWABS

PORT NECHES

Two mi n Port Neches. Mary E. Hall Nos. 1 and 2, and T. J. Notgrass, Jacob Beaumont, J. V. Polk Surveys. **Means of Discovery:** Seismograph, The Texas Co., 1928. **Discovery Well:** The Texas Co.'s Kuhn 1, first test after geophysical work, 1900 bbls 21.5 gravity, 3160 ft, May 9, 1929. **Structure:** Salt dome, top salt 7250 ft. **Producing Formations:** Pliocene-Miocene sands around 3150, 3750, 4150, 4400 and 4811 ft; Marginulina sands at 5871 to 5931 ft. **Productive Area:** About 225 acres. **Extent of Development: Through 1935,** 32 tests, 20 oil, 12 dry. **Deepest Hole:** The Texas Co.'s Orange National Bank 2, Jacob Beaumont Survey, dry at 7667 ft, July, 1934. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through 1935:** 3,475,118 bbls. **Indicated Remaining Reserve:** 8,524,882 bbls. **Daily Production in January, 1936:** 17 wells, 1709 bbls. **Oil Outlet:** Sun Pipe Line Co., 6-in; Humble Pipe Line Co., 8-in; Texas Pipe Line Co.. **Range of Gravity:** 21-23; 21-37.4. **Rigs Running January 1, 1936.** None. **Principal Leaseholder:** The Texas Co.

SOUTHWEST ORANGE*

Southwest of Orange, J. Jett, A. Nelson Surveys. **Means of Discovery:** Torsion balance, L. H. Williams, 1935. **Extent of Development:** Dick Schwab's Banker Rutan 1, gas show 5590-96 ft, salt water sand 7170-7205 ft, dry 7265 ft, 1935. **Principal Leaseholders:** Dick Schwab, L. H. Williams.

SPEAR*

Centering common corner Hardin and Jefferson Counties on Neches River which is Orange County w line; Thos. Spear Survey, Jefferson County, and Nancy Davis and Pinckney Lout Surveys, Orange County. **Means of Discovery:** Seismograph, Sun Oil Co., 1928. **Extent of Development:** None since seismograph; previously shallow tests mile north in Martin Palmer and Pinckney Lout Surveys.

VIDOR*

Two mi n Vidor, 6 mi ne Beaumont, E. Lewis, J. Davenport, W. C. Sharp Surveys. **Means of Discovery:** Reflection seismograph, Gulf Production Co., 1928, and reshot in 1932, after deep test. **Extent of Development:** Gulf's Miller-Vidor 1, Lewis Survey, abnd in sand, 6500 ft, 1931; shallow tests previously. **Principal Leaseholders:** Gulf and Sun Oil Co.

POLK COUNTY

ACE

Eight mi se Livingston field. Centering around corners of Peter J. Menard, P. A. Sublett, and Geraldus S. Thomas Surveys. **Means of Discovery:** Trend play; torsion balance indication of deep dome. **Discovery Well:** Dick Schwab's Kirby-West 2, se part Geraldus S. Thomas Survey, 3,000,000 cubic feet wet gas daily, with occasional sprays 42.5 gravity oil, through ¼-in choke, from Cockfield at 4740-4856 ft, Dec. 26, 1933. **Structure:** Possibly a deep seated salt dome; no dome material encountered. **Producing Formations:** Cookfield, upper portion of Eocene, at 4740-4856 ft. **Productive Area:** Two gas and distillate wells. **Extent of Development:** Through 1935, 8 tests, 2 oil and gas, 6 dry. **Deepest Hole:** Alpha Petroleum Co.'s Kirby-West B-1, dry at 5508 ft, June, 1934. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through 1935:** 27,500 bbls. **Indicated Remaining Reserve:** 472,500 bbls. **Daily Production in January, 1936:** One well, 64 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 42.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Dick Schwab, Alpha Petroleum Co. **Remarks:** Second gas well of field was Alpha Petroleum Co.'s Kirby-West 1, 700 ft west of discovery well. It was completed at 4899-4911 ft in April, 1934. Prior to completion of discovery well, Dick Schwab's Kirby-West 1, 600 ft ne of discovery well, had been abandoned at 4898 ft in Nov., 1933, although it had for a time given promise of proving productive. The field's second dry hole was Alpha Petroleum Co.'s Kirby-West B-1, about ¾ mile e of the discovery well, dry at 5508 ft, June, 1934. Several tests have been drilled along south line of Polk County and in northeast and northwest Liberty and Harris County, by Kirby Petroleum Co., Dick Schwab and Alpha Petroleum Co., but all tested salt water. The 1934 Gulf Coast Issue carried this field as Schwab-Kirby gas field. See Segno Prospect Polk County and Rumyar Prospect Liberty County.

CORRIGAN*

West and southwest Corrigan, centering around Trinity County School Land, Houston County School Land and Saner-Ragley Surveys. **Means of Discovery:** Pendulum, torsion balance, Gulf Production Co., 1933; Pure Oil Company worked the general area. **Extent of Development:** Gulf drilled five dry holes on fee in Polk and Trinity Counties. **Principal Leaseholders:** Gulf, J. T. Lightfoot. **Remarks:** Gulf acquired 5400 acres in se c Polk County, October, 1935, and has 20,000 acres Trinity County Lumber Co. fee under lease in Polk and Trinity Counties. Lightfoot leased 8900 acres north of Corrigan, October, 1935, and was dr in shale at 1749 ft on L. Davidson 1, March, 1936. Houston County School Land Survey.

LIVINGSTON

Nine mi se Livingston, in se part Augustine Viesca 7 Leagues north of Jno. Swinney Survey. **Means of Discovery:** Surface and sub-surface geology; also torsion balance indications of deep dome. **Discovery Well:** Dick Schwab's Carlton-Davis 1, 20 million ft gas well, 4329-4311 ft, Oct. 18, 1932, yielding some distillate. About 3 mi nw, in an isolated productive spot, first oil for the area was obtained from Sunshine Oil Co.'s Chase 2, which pumped 5 bbls 28 gravity oil daily at 3290 ft, February 13, 1930; deepened to 3382 ft and pumped 15 bbls daily, beginning March 10, 1930. **Structure:** Dome of Raccoon Bend-Conroe type, but very small in area; no salt dome material reached. **Producing Formations:** Main pay, Conroe sand of Cockfield age at 4195 to 4360 ft. Sunshine well production from Jackson sand at 3285-3382 ft. **Productive Area:** About 2100 acres. **Extent of Development:** Through 1935, including tests adjacent to as well as within field, total 106 tests, 71 oil, 2 gas, 33 dry. **Deepest Hole:** J. S. Abercrombie Co. and Harrison Oil Co.'s Carter Lumber Co. 1, s edge test, dry at 5596 ft, February, 1933. **Estimated Ultimate Recovery:** 15,750,000. **Production Through 1935:** 2,180,776 bbls. **Indicated Remaining Reserve:** 13,569,224 bbls. **Daily Production in January, 1936:** 75 wells, 2945 bbls. **Oil Outlet:** Shell Pipe Line Co., 6-in. **Range of Gravity:** 28. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** Shell Petroleum Corp., Polk County Oil Co. (Josey & Schwab), Skelly Oil Co., Abercrombie & Harrison, Smith & McDaniels, Humble Oil & Refining Co., Hawkeye Petroleum Co., Gem Oil Co., Owenby Drilling Co., Refugio Oil Co., T. A. Carlton, Sun Oil Co.

SEGNO*

Centers around town of Segno, Mary Thomas Survey; s of town around J. Stephenson Survey. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Gulf Production Co., Kirby Petroleum Co. **Extent of Development:** By Kirby Petroleum Co.: Kirby Lumber Co. 2, show oil 5340-45 ft, abnd 5505 ft, 1934; H. & T. C. 1, Section 226, salt water in Cockfield, 5454 ft, quit 5604 ft, 1934; Kirby Lumber Co. 1, salt water in Cockfield, dry 5320 ft, April, 1935; Kirby Lumber Co. 3, topped salt water sand, 5714 ft, abnd 5715 ft, July, 1935. **Principal Leaseholders:** Humble, Kirby, Gulf. **Remarks:** See Ace, Romayor.

SAN JACINTO COUNTY

COLD SPRINGS*

Six mi sw Cold Springs, centering George Taylor, J. Rankin Surveys. **Means of Discovery:** Geophysics, Shell Petroleum Corp., 1933. **Extent of Development:** Piedmont Oil Co.'s Foster Lumber Co. 1, nw c Geo. Taylor Survey, quit, salt water, 4475 ft. Turnbull & Irwin's J. J. West 1, reported formations higher than above test, quit in Cockfield, 4280 ft. Phillips Petroleum Co.'s Foster Lumber Co. 1, ne c Geo. Taylor Survey, abnd 4500 ft, July, 1934. Ralph Stern's Love 1, 2 mi nw Cold Springs, D. McGee Survey, quit in salt water sand, 5670 ft, January, 1936. **Remarks:** Stern leased 5500 acres in August, 1934, and sold spreads to Humble Oil & Refining Co., Magnolia Petroleum Co., Sun Oil Co., Crown Central Petroleum Co., Sid Wheelis.

NORTH CLEVELAND*

Six mi n Cleveland, centering around I. Lowry, Wm. Dobie Surveys. **Means of Discovery:** Surface geology, geophysics. **Extent of Development:** Turnbull & Irwin's Foster Lumber Co. 1, Dobie Survey, quit in Cockfield salt water sand, 4936 ft, June, 1934. Three mi sw Weaver et al's Delta 1, J. W. Richardson Survey, quit at 5380 ft, April, 1933. Five mi ne, Seven Wells Corp.'s Foster 1, H. Alsbury Survey, quit in salt water sand, 5041 ft, 1932. **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** See Keno-Excelsor.

SECURITY*

Four m n Security in San Jacinto and Montgomery Counties, centering around s end G. Harris Survey. **Means of Discovery:** Subsurface geology; Shell Petroleum Corp., geophysics, 1933. **Extent of Development:** Turnbull & Irwin's Aylor 1, E. Votaw Survey, quit in salt water sand, 5230 ft, 1933, Fitzgerald 1, G. H. Harris Survey, quit in Cockfield, 4852 ft, 1934. J. M. Weaver et al's Delta 1, J. G. Ferguson Survey, abnd 5752 ft, 1934. Turnbull & Irwin's Love 1, Washington County Survey No. 4, quit in Cockfield salt water, 4720 ft, 1933.

SHEPHERD*

Four mi e Shepherd, L. D. Martinez No. 4, F. Hardin, C. Smith Surveys. **Means of Discovery:** Geophysics, Shell Petroleum Corp., 1933; torsion balance, Atlantic Oil Producing Co., Shell, 1934. **Extent of Development:** Turnbull & Irwin's Peoples State Bank 1, salt water 4633-50 ft, abnd 4650 ft, 1934; Moore 1, salt water sand 4850-67 ft, dry 4873 ft. H. C. Cockburn's Lankin 1, Wm. Hayes Survey, quit in Cockfield salt water sand, 5319 ft, November, 1935; Dickson-Falvey-Shell 1, C. Smith Survey, quit in salt water sand, 5005 ft, January, 1936; K. Moore 1, quit at 5053 ft, February, 1936. **Principal Leaseholders:** Humble Oil & Refining Co., Shell Petroleum Corp., H. C. Cockburn. Atlantic Oil Producing Co. has 1800 acres se of Shepherd.

TYLER COUNTY

COLMESNEIL*

Three mi n Colmesneil, S. L. Ghohm Survey. **Means of Discovery:** Surface geology, Pure Oil Co., 1933. **Extent of Development:** Boone Bros.' Crews 1, show of oil, 1961-65 ft, salt water sand 2231-34 ft, dry 3026 ft, August, 1934. **Principal Leaseholders:** Boone Bros., Pure Oil Co. Stanolind Oil & Gas Co. has a large block (was Yount-Lee) south of this prospect.

HILLISTER*

South of Hillister, centering around B. B. B. & C. Section 8. **Means of Discovery:** Reflection Seismograph, Humble Oil & Refining Co., 1933. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, The Texas Co., Sun Oil Co.

SPURGER‡

Three mi se Spurger, Adolph Sterne, E. Thompson Surveys. **Means of Discovery:** Trend play; torsion balance, Republic Production Co. and Houston Oil Co. **Discovery Well:** Republic Pro-

*Prospect. †Salt dome, no production. ‡Gas field.

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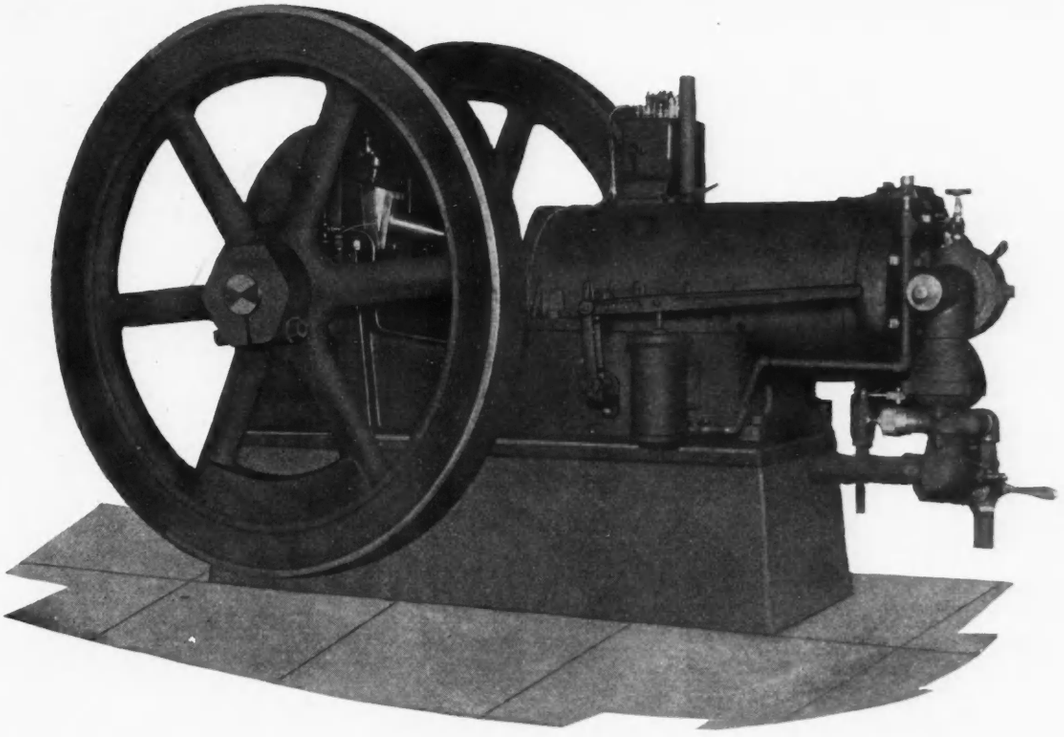

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duction Co. and Houston Oil Co.'s Sterne 1, completed Oct. 8, 1932, estimated 2½ million cu ft gas, 15 bbls salt water spray containing 25 percent gasoline, pressure around 1800 lbs, through 1/8 and 3/16 inch chokes from sand at 4698-4708 ft. Later deepened to 5619 ft, then plugged back and again completed Jan. 20, 1933, as 15,000,000-ft gas well at 4694 ft, with 2 bbls gasoline output daily. **Structure:** Believed from limited available information to be structure like others along Pettus-Raccoon Bend-Conroe trend. **Producing Formations:** Cockfield sand at 4698-4708 ft. **Productive Area:** Only a few acres. **Extent of Development:** Through 1935, 8 tests, 1 gas, 7 dry holes. **Deepest Hole:** Republic-Houston Oil's Sterne Fee 2, about ¼ mi sw discovery well, dry at 6776 ft, June, 1933. **Daily Production in January, 1936:** None. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Republic Production Co. and Houston Oil Co., jointly, control large area, fee lands and leases.

WOODVILLE*

South of Woodville, centering around J. Wheat Survey. **Means of Discovery:** Surface geology, torsion balance, Jaybee Oil Co., 1934. **Extent of Development:** Jaybee Oil Co.'s Young 1, abnd salt water sand, 4050 ft., Sept., 1934. **Principal Leaseholders:** Jaybee Oil Co., Woodley Petroleum Co., Gulf Oil Corp. **Remarks:** Sinclair Prairie Oil Co., Atlantic Oil Producing Co., Humble Oil & Refining Co., contributed toward drilling test.

WALLER COUNTY

KATY‡

Five mi w of Katy, centering M. Bennett Survey. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Humble Oil & Refining Co., 1934. Several other major oil companies worked this area with geophysical instruments. **Discovery Well:** Stanolind Oil & Gas Co.'s Thorp 1, 2,000,000 cubic feet gas daily on various size chokes with 50 to 75 bbls of distillate, February 15, 1935. Drilled to 7647 ft, pb to 7466 ft. **Structure:** Gas cap type anticline. Thought to be as large a structure as Conroe. Possibilities of oil around the flanks. **Producing Formations:** Discovery well encountered showings in the Cockfield and Upper Saline Bayou sands. Below the top of Cockfield, Thorp 1 encountered over 102 ft gas sand. First showing was at base of Caddell and continued through Cockfield to top of Upper Saline Bayou. **Productive Area:** Only the discovery well making gas and distillate. **Extent of Development:** Prior to the discovery well, Amerada-Stanolind's Mary Manor 1, plugged at 6713 ft, June, 1934. **Rigs Running January 1, 1935:** None. **Principal Leaseholders:** The discovery well was drilled on a unitized block. Humble Oil & Refining Co., Stanolind Oil & Gas Co., Sinclair-Prairie Oil Co., Amerada Petroleum Corp. and Tide Water-Darby Petroleum Co. **Remarks:** The first well on the Conroe trend to drill 1489 ft in Cockfield formation without encountering salt water. The discovery well is the deepest well along trend to show gas. Opened a new producing zone for the trend. Amerada-Stanolind's Mary Manor 1, 7½ mi n of the discovery well is located on the same structure and is classed by many as the discovery well for the field. The well made 15,000,000 cubic ft of gas on a drill stem test but showed salt water.

•Prospect. †Salt dome, no production. ‡Gas field.

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WASHINGTON COUNTY

BRENHAM

S. M. Williams and J. Hodges Surveys, 8 mi sw Brenham. **Means of Discovery:** Surface elevation, gas seeps. **Discovery Well:** Brenham Oil Co.'s Schurenberg 2, Oct. 8, 1915, 25 bbls., 1450 ft (First shallow oil production: Lamarque Oil Co.'s Hess 1, 30 bbls. 270 ft, Jan. 9, 1925). **Structure:** Salt dome, top cap rock 800 ft, salt 1150 ft. **Producing Formations:** Miocene sands at 190 to 275 ft; sands at 1500 ft. **Productive Area:** About 50 acres. **Extent of Development:** Through 1935, partly estimated, total 93 tests, 70 oil, 23 dry. **Deepest Hole:** Sun Oil Co.'s Zetik 1, dry 3053, June, 1934, tested fresh water. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through 1935:** 289,268 bbls. **Indicated Remaining Reserve:** 210,732 bbls. **Daily Production in January, 1936:** 21 wells, 21 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 14-19. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Butler and Calhoun, Conklin et al, Golden Rule Oil Co., Lynne Oil Co. **Remarks:** Located farther inland than regular salt domes.

CLAY CREEK

12 mi n Brenham, Nestor Clay and J. F. Perry Surveys. **Means of Discovery:** Surface geology of Sun Oil Co., 1926, and core tests. **Discovery Well:** Sun's G. F. Grote 1, 125 bbls, 25 gravity, 1154 ft, October 10, 1928. **Structure:** Salt dome, top cap rock 1800 ft, salt 3160 ft. **Producing Formations:** Cook Mountain, Mount Selman, and Wilcox sands at 1150 to 1500 ft. **Productive Area:** About 350 acres. **Extent of Development:** Through 1935, 91 tests, 48 oil, 5 gas, 38 dry. **Deepest Hole:** Sun's Janner 4, quit in salt, 5517 ft, 1931. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 3,245,822 bbls. **Indicated Remaining Reserve:** 1,754,178 bbls. **Daily Production in January, 1936:** 41 wells, 1182 bbls. **Oil Outlet:** Sun Pipe Line Co. to loading rack. **Range of Gravity:** 22-36. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Sun Oil Co.

WHARTON COUNTY

BLUE BASIN*

1½ mi se Pierce, centering J. Pirie Survey. **Means of Discovery:** Torsion balance, reflection seismograph, Pure Oil Co. **Extent of Development:** Pure Oil Co.'s Paige 1, shut down 7676 ft, March, 1936. **Principal Leaseholder:** Pure Oil Co. (8000 acres). **Remarks:** The Texas Co.'s Withers field is 3 mi ne this prospect.

BOLING

Two mi e Boling. S. F. Austin 3-1/6 Lg., D. W. Anthony, Simon Miller and Jas. Scott Surveys. **Means of Discovery:** Gas, sulphur water. **Discovery Well:** The Texas Co.'s Taylor 3, Dec. 14, 1925, 10,000 bbls., 3338 ft. **Structure:** Salt dome, top of cap rock 425 ft, salt 975 ft. **Producing Formations:** Cap rock at 400 to 500 ft; Oligocene sands at 2500 to 4089 ft, also sands at 4297 to 4657 ft. Also sulphur from cap. **Productive Area:** About 200 acres. **Extent of Development:** Through 1935, partly estimated and not including sulphur development, 440 tests, 323 oil, 117 dry. **Deepest Hole:** Allied Minerals Corp.'s E. C. Farmer 1, se flank, quit at 5543 ft, April, 1935. **Estimated Ultimate Recovery:** 6,500,000 bbls. **Production Through 1935:** 4,773,051 bbls. **Indicated Remaining Reserve:** 1,726,949 bbls. **Daily Production in January, 1936:** 79 wells, 836 bbls. **Oil Outlet:** Sinclair-Prairie Pipe Line Co., 6-in., Humble Pipe Line Co., 8-in. **Range of Gravity:** 23-32. **Rigs**

SAN FELIPE

John McFarland Survey. **Means of Discovery:** Seismograph reflection, Gulf Production Co., 1927. **Discovery Well:** Seaport Oil Co.'s Vaughn 1, September 7, 1934, pumped four to five bbls per hour, 2966 ft. It was drilled 10 ft deeper, 2976 ft, flowed 22.2 gravity oil through the drill stem October 9, 1934, at the rate of 8 bbls per hour, 50 percent oil, 50 percent fresh water. **Structure:** Salt dome. One well topped cap rock at 3218 ft, and a s flank test hit salt at 4755 ft. **Producing Formations:** Producing from the Frio formation of the Oligocene in sandy shale, 385 ft, below the top of the Frio formation and 228 ft above cap rock. Sands 2966-2976 ft. **Productive Area:** Only the discovery. **Extent of Development:** 18 tests, 17 dry, 1 oil producer. **Deepest Hole:** Empire Gas & Fuel Co.'s Kunze 1, w flank, dry at 7200 ft, 1931. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through 1935:** 13,997 bbls. **Indicated Remaining Reserve:** 486,003 bbls. **Daily Production in January, 1936:** 1 well, 18 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 23. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Seaport Oil Co., The Texas Co., Gulf Production Co., Empire Gas & Fuel Co. **Remarks:** Regarded as one of the largest salt domes on the Texas Gulf Coast. Few wells have drilled deep enough for geological determinations. Sometimes referred to as Brookshire.

WALLER*

Nine mi ne Waller, B. B. B. & C. 97, Pevehouse, J. Cooper, D. O'Boyle, G. Clay, Stewart, L. H. Jones Survey. **Means of Discovery:** Surface indications, torsion balance, Humble Oil & Refining Co., 1929. **Extent of Development:** Humble's Taub 1, B. B. B. & C. Section 97, abnd shale, 1025 ft, 1930. Diadem Oil Co.'s Urban 1, salt water sand 4762-84 ft, dry 4905 ft, June, 1935. **Principal Leaseholder:** Humble.

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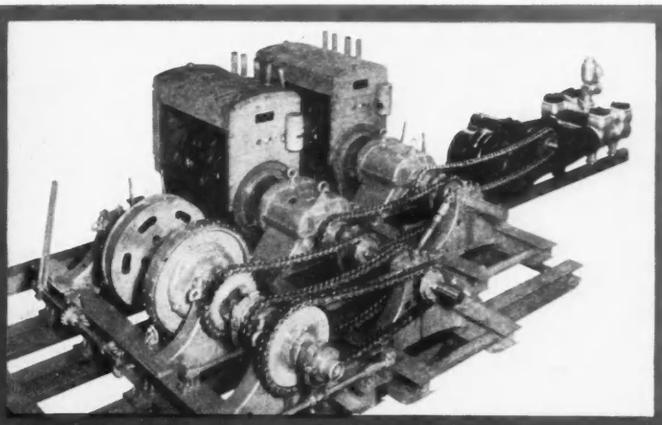

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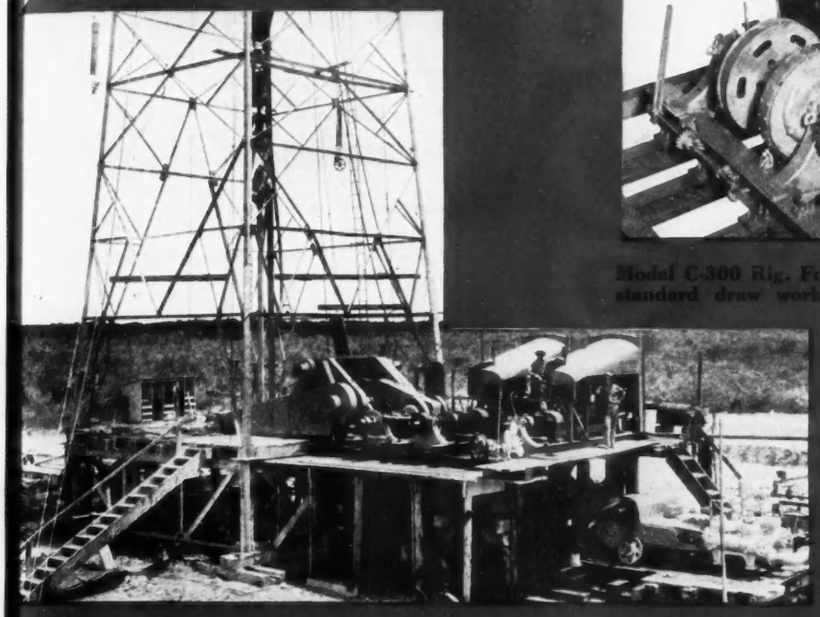

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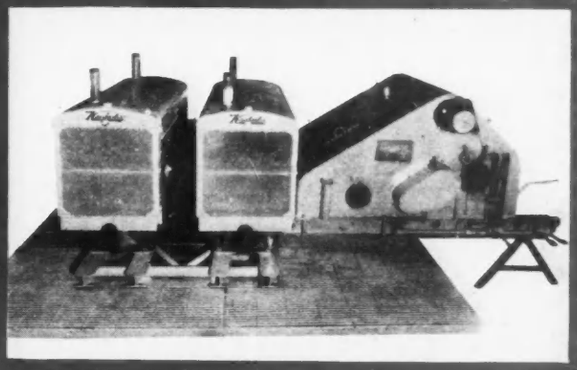

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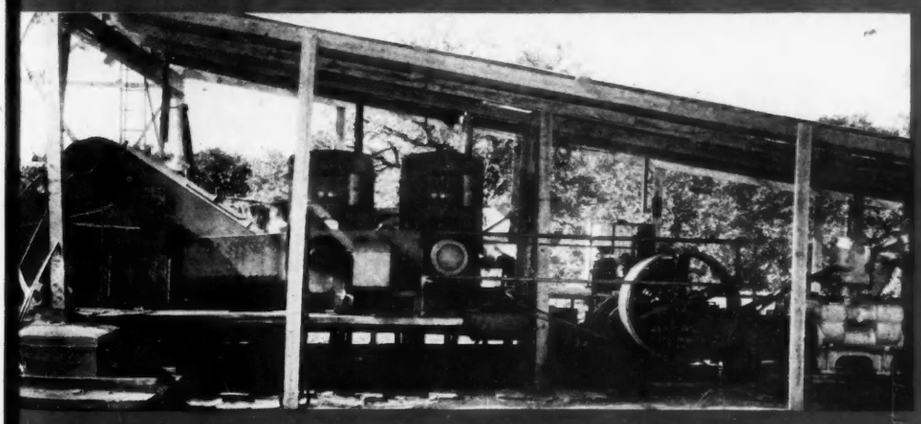

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Running January 1, 1936: One. **Principal Leaseholders:** Gulf Oil Corp., The Texas Co., Magnolia Petroleum Co., Weed-Gayle Oil Co., Sun Oil Co., Atlantic Oil Producing Co., Humble Oil & Refining Co., Boling Dome Oil Corp., Sinclair Prairie Oil Co., Allied Minerals Corp., Texas-New York Development Co. Navarro Oil Co., Hank & Mack Oil Co., Brewster Tr. **Remarks:** Referred to as Newgulf.

EAST BERNARD*

Northeast corner Wharton County, centering J. Scott Survey. **Means of Discovery:** Reflection seismograph, Tide Water Oil Co., 1934. **Structure:** Probably deep-seated salt dome. **Extent of Development:** Sterling Oil & Refining Co.'s Janek 1, small shows of oil with salt water flow, abnd 8667 ft, Dec., 1935. Same operator's Genzer 1, was a lcn March, 1936. **Principal Leaseholders:** Tide Water Oil Co., Sterling, Gulf Oil Corp., Kirby Petroleum Co., C. E. Bunte.

GLENFLORA*

Two mi sw Glenflora, Wm. Kinchelor Survey. **Means of Discovery:** Surface indications. **Extent of Development:** Daniels Bros.' Dayvault 1, Kinchelor Survey, abnd 6300 ft, Sept., 1933.

HILJE*

Three mi se Hilje, E. T. R. R. Sections 26, 27, 37, 38. **Means of Discovery:** Surface indications; torsion balance. Cockburn Oil Corp., 1929. **Extent of Development:** Several shallow tests, no drilling since geophysical work.

HUNGERFORD*

North of Hungerford, Alexander Jackson Survey. **Means of Discovery:** Surface indications; torsion balance, Gulf Production Co., 1931; checked by reflection seismograph. **Extent of Development:** H. H. Givan et al, three tests on Hudgins land, 850, 1350 and 3025 ft, 1930-31. Cullen & West's Hudgins 1, Jackson Survey, dry, 5768 ft, 1932; Hawes 1, G. W. Singleton Survey, dry, 6850 ft, 1933. **Principal Leaseholders:** Gulf Oil Corp.; Cullen & West.

LEACH*

4½ mi s Hilje, E. T. R. R. Section 58. **Means of Discovery:** Gas seeps and surface high; torsion balance and reflection seismograph, Cockburn Oil Corp., 1931; checked torsion balance, Texas Gulf Producing Co. **Extent of Development:** Two 1200-foot tests, no showings; 1600-ft test stopped in sand which showed some gas and oil. Steed Production Co.'s Lurker 1, Section 58, abnd 5026 ft, 1934. Texas Gulf Producing Co.'s Kresta 1, quit in heaving shale, 6909 ft, 1934. Cockburn Oil Corp.'s T. Connor 1, was dr shale 2760 ft, March, 1936. **Principal Leaseholders:** Steed Production Co., The Texas Co., Gulf Oil Corp., Alpha Petroleum Co., Cockburn Oil Corp., Shell Petroleum Corp., Pure Oil Co.

LOUISE

Three mi se Louise. Morris & Cummings Survey, Sections 22, 23, 25, 27, 28 and F. Walnut, T. W. Hurd Surveys. **Means of Discovery:** Refraction seismograph, Pure Oil Co., 1928. **Discovery Well:** Pure's Stewart 1, Section 25, drilled to 8015 ft, plugged back, and completed at 5976-5983 ft, December 14, 1933, flowing 262 bbls 38 gravity oil daily through ½-inch choke, production being from Frio sand. **Structure:** Deep seated dome. No direct evidence of salt or cap rock in connection with the structure, either through drilling or geophysics. **Producing Formations:** Marginulina sand of middle Oligocene at 5135-5168 ft; Frio sands of Oligocene at 5976-5983 ft, 6431-6445 ft, and at 7143 ft. **Productive Area:** About 900 acres. **Extent of Development:** Through 1935, 28 tests, 22 oil, 6 dry. **Deepest Hole:** Pure's Stewart 2, drilled to 8271 ft., December, 1934, pb and completed as a producer March, 1935; tested at 8266 ft. **Estimated Ultimate Recovery:** 5,500,000 bbls. **Production Through 1935:** 600,396 bbls. **Indicated Remaining Reserve:** 4,899,604 bbls. **Daily Production in January, 1936:** 20 wells, 1520 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 26 and 31.7. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Pure Oil Co.

*Prospect. †Salt dome, no production. ‡Gas field.

MAGNET*

Two mi w Magnet, S. Castleman Survey. **Means of Discovery:** Geophysics, Cockburn Oil Corp., 1934. **Remarks:** See Withers.

MANCHA*

Nine mi nw El Campo, N. Mancha Survey. **Means of Discovery:** Surface indications; torsion balance, seismograph, Stanolind Oil & Gas Co., Houston Oil Co., 1931. **Extent of Development:** The Texas Co. drilled several tests, deepest 1600 ft. Gant & Teas' Hahn 1, Mancha Survey, had gas show, 1475-96 ft, and 3328-44 ft, abnd Vicksburg, 5550 ft, 1932. Navarro Oil Co.'s E. P. Schoelman 1, quit at 7732 ft, Oct., 1935.

NORTH EL CAMPO*

3½ mi n El Campo, H. & T. C. Section 8. **Means of Discovery:** Surface geology, geophysics. **Structure:** Possibly very deep seated salt dome. **Extent of Development:** Smith & McDannald and Shell Petroleum Corp.'s Mitchell 1, w cor Section 8, gas shows 3100, 3200, 3900, 5450 and 6300 ft; abnd 6875 ft, 1933; J. L. Ridgway 1, e cor Section 8, abnd 7607 ft, 1933. **Principal Leaseholders:** Shell, Smith & McDannald. **Remarks:** Also called Lakeview.

PICKETT RIDGE

One mi se of Pierce, centering I.&G.N. Sections 38 and 39. **Means of Discovery:** Torsion balance, seismograph reflection, The Texas Co., 1934. Surface geology. **Discovery Well:** The Texas Co.'s Pierce Estate A-2, 12 bbls 23.9 gravity oil per hour from 4704 ft, June 24, 1935. Later killed due to high gas/oil ratio. Drilled to 4710 ft, came in for 16 bbls per hour, July 10, 1935. **Structure:** Terrace. **Producing Formations:** Frio formation of the Oligocene series from 4704 to 4710 ft. Gas and oil from 4670 to 4710 ft. **Productive Area:** About 320 acres. **Extent of Development:** Through 1935, 7 tests, 4 oil, 3 dry. **Deepest Hole:** The Texas Co.'s Pierce Estate 1, quit at 6584 ft, 1935. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through 1935:** 46,094 bbls. **Indicated Remaining Reserve:** 1,953,906 bbls. **Daily Production in January, 1936:** 3 wells, 356 bbls. **Oil Outlet:** Texas Pipe Line Co., 4-in. **Range of Gravity:** 25.5. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** The Texas Co.

RIO*

Seven mi n Hilje, W. C. R. R. Sections 42, 43, 44. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Rio Bravo Oil Co. **Principal Leaseholder:** Humble.

SOUTHEAST WHARTON*

Three mi se Wharton, F. Biggam Survey. **Means of Discovery:** Geophysics, 1933. **Extent of Development:** Hutchinson & Dickson's Reid 1, Biggam Survey, abnd 6600 ft, 1934.

SPANISH CAMP*

East of Spanish Camp, A. Edgar Survey. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., The Texas Company, Standard Oil Company of Kansas, 1934. **Principal Leaseholders:** Humble, Atlati Oil Co.

WITHERS

Eight mi se Pickett Ridge field, centering around J. Caldwell Survey. **Means of Discovery:** Torsion balance, reflection seismograph, The Texas Co., 1934. **Discovery Well:** The Texas Co.'s Pierce Estate C-1, January 4, 1936, 15 bbls per hour 26 gravity oil from 5549 ft. **Structure:** Terrace. **Producing Formations:** Lower Marginulina Frio sands, 5470 to 5549 ft. **Productive Area:** 10 acres. **Extent of Development:** Through January, 1936, one oil well and one test drilling. **Deepest Hole:** Discovery well. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Rigs Running January 15, 1936:** One. **Principal Leaseholder:** The Texas Co. **Remarks:** The Texas Co. took 25,000 acres of the Pierce Estate, paying a large cash consideration and over $1,000,000 out of oil. The company made a selection of three 4000-acre blocks. The first block was drilled which resulted in a new oil field. The Withers block was the second block drilled by the operators. The operators have now made lcn for Pierce B-1, on the third block. Sometimes referred to as Five Corners.

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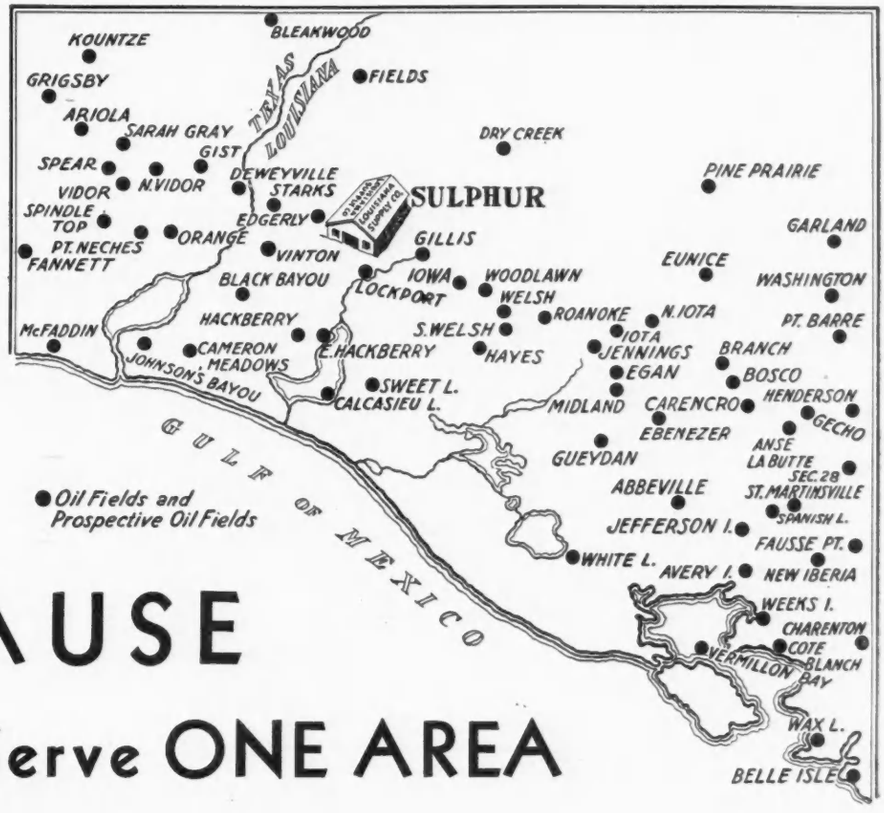

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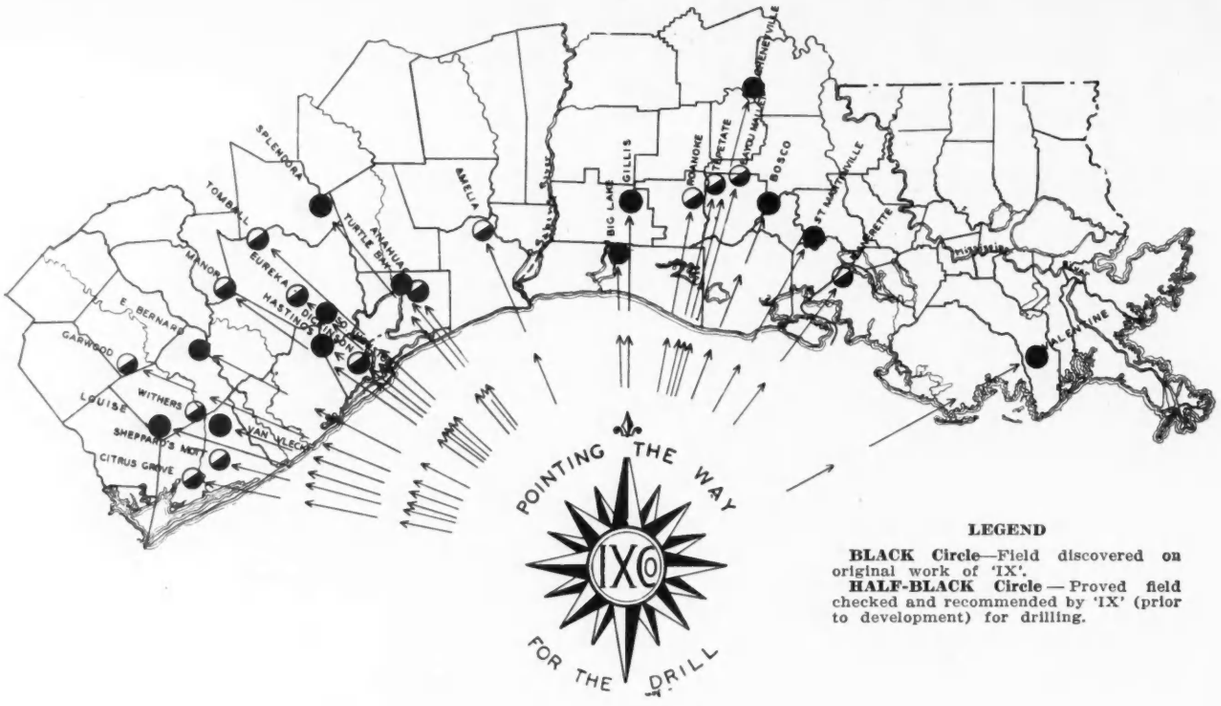

LEGEND

BLACK Circle—Field discovered on original work of 'IX'.

HALF-BLACK Circle — Proved field checked and recommended by 'IX' (prior to development) for drilling.

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LOUISIANA

ACADIA PARISH

BAYOU MALLET‡

Six mi se Eunice, centering on the Acadia-St. Landry Parish line in Section 14-7s-1e, Churchpoint prospect. **Means of Discovery:** Seismograph reflection, Superior Oil Producing Co., 1935. Shell Petroleum Corp., worked in the general area with torsion balance, 1934. Adams Louisiana Corp., ran a profile along the w line of Section 24, 25, 36-7s-1e, and along the e, w and s line of Section 1-8s-1e. **Discovery Well:** Superior and Woodley Petroleum Co.'s Adams Smith 1, January 4, 1936, 3,200,000 cubic ft of gas along with 20 bbls of 56.3 gr distillate daily from perforations, 7190-98 ft. **Structure:** On salt ridge. **Producing Formations:** Marginulina of Oligocene, 7190-98 ft. **Productive Area:** Only discovery well. **Extent of Development:** Superior and Woodley's Adams Smith 1, one mi n of Woodley Petroleum Co.'s Dr. Newman 1, (See Churchpoint prospect), the discovery well was drilled to 8337 ft. Set 9-5/8-in csg and perforated from 7190 to 7198 ft. The same operator's M. Sovey 1, Section 47-7s-1e, dr. **Deepest Hole:** Discovery well. **Daily Production in January, 1936:** One well, 20 bbls distillate. **Oil Outlet:** Storage tanks. **Range of Gravity:** 53.3. **Rigs Running in January, 1936:** One. **Principal Leaseholders:** Superior Oil Producing Co., Woodley Petroleum Co.

BOSCO

Centering around SWc Section 26, SEc 28, E½ 33, N 2/3 34 and NEc Section 34-8s-3e. **Means of Discovery:** Refraction seismograph, Pure Oil Co., 1929. **Discovery Well:** Superior Oil Co. and Pure Oil Co.'s P. O. Hernandez 1, April 26, 1934, 32 bbls 38 gravity oil hourly through 12/64-inch choke, 7845-7850 ft. Total depth 8915 ft. **Structure:** Apparently deep seated salt dome, salt not reached. **Producing Formations:** Discorbis (Hernandez sands) at 7830 ft, Heterostegina (Mire sands) 8060 ft, Marginulina (Richard sands) 8650 ft, second Marginulina sand 9041 ft, third Marginulina sand 9118 ft. All the producing sands are in the Oligocene series. **Productive Area:** About 1500 acres. **Extent of Development:** Through 1935, 78 tests, 64 oil, 3 gas, 11 dry. **Deepest Hole:** Superior Oil Producing Co.'s A. Martinez 1, sw flank test, abd in Vicksburg, 10,002 ft, January, 1935; had several hundred ft of sand which carried salt water. **Estimated Ultimate Recovery:** 31,500,000 bbls. **Production Through 1935:** 7,397,906 bbls. **Indicated Remaining Reserves:** 24,102,094 bbls. **Daily Production in January, 1936:** 58 wells, 15,565 bbls. **Oil Outlet:** Pure-Van Pipe Line Co., 8-in. **Range of Gravity:** 37-39. **Rigs Running January 1, 1936:** One (workover). **Principal Leaseholders:** Pure and Superior on 50-50 basis have 6500-acre lease block, assembled originally by former. **Remarks:** Discovery well had about dozen oil and gas shows besides that at completion level. Its total depth is 8916 ft in Frio, having gone through Heterostegina and Marginulina and into Frio. Water level found around 7870. Several wells in the field are making salt water with some as high as 95 percent.

BRANCH*

West edge Twp. 8s-3e and west of Sections 17 and 20. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Extent of Development:** Undrilled. **Structure:** Indicated deep salt dome. **Remarks:** Gulf Refining Co. did geophysical work on large block centering Section 21-8s-2e, 1934.

CHURCH POINT*

Sections 24, 25 and 36-7s-1e. **Means of Discovery:** Gas seeps, surface geology; reflection seismograph, Woodley Petroleum Co., Superior Oil Producing Co., 1933. **Extent of Development:** Woodley et al's Lincoln 1, Section 36, quit at 3000 ft, 1934. Woodley and Superior Oil Producing Co.'s Daigle 1, Section 24, dry at 8415 ft, 1934. Woodley's Newman 1, Section 24, gas show 7925-41 ft, salt water sand in Cockfield 8125 ft, April, 1934. **Principal Leaseholders:** Superior, Woodley, Edwards Drilling Co. **Remarks:** See Bayou Mallet.

EBENEZER*

Four mi s Crowley, centering Section 27-10s-1e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. Shell Petroleum Corp., torsion balance. **Extent of Development:** Humble's American Rice Mill 1, live oil and salt water, 5690-5709 ft, odor oil 8170-90 ft, stuck drill stem 9308 ft, July, 1935. **Principal Leaseholders:** Humble, Sun Oil Co. **Remarks:** Also known as South Crowley.

EGAN*

Section 30-9s-2w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927. **Extent of Development:** Gulf Refining Co.'s Housiere-Latrielle A-1, abnd shale 5801 ft, 1928. **Principal Leaseholder:** Gulf Oil Corp.

ESTHERWOOD*

Section 23-10s-1w. **Means of Discovery:** Reflection seismograph; Stanolind Oil & Gas Co., 1935. Magnolia Petroleum Co., Continental Oil Co. and Gulf Refining Co. also worked the area with geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind, Magnolia, Gulf.

IOTA*

Sections 25, 26, 35, 36-8s-2w. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1929; geophysics, Magnolia Petroleum Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** Magnolia Petroleum Co.

JENNINGS

Irregular Sections 40, 41, 42, 45, 46, 47, 48-9s-2w. **Means of Discovery:** Elevation, gas escapes. **Discovery Well:** Jennings Oil Co.'s No. 1, Section 46, (later Gulf's Jennings-Clemont lease), blew in, August, 1901, spraying oil and sand in considerable quantity from 1882 ft. **Structure:** Salt dome, top cap rock 2000 ft, salt 3716 ft. **Producing Formations:** Pliocene-Miocene sands 1500-2000 ft; Miocene 2700-4500 ft; Oligocene 7225-7447 ft. (Oil shows in Oligocene 7683-7804 ft; 8613-8698 ft). **Productive Area:** About 250 acres. **Extent of Development:** Through 1935, 628 tests, 518 oil, 110 dry. **Deepest Hole:** Yount-Lee Oil Co.'s Housiere-Latrielle 9, se flank, 8900 ft, dry, March, 1931. **Estimated Ultimate Recovery:** 60,000,000 bbls. **Production Through 1935:** 51,566,991 bbls. **Indicated Remaining Reserves:** 8,433,009 bbls. **Daily Production in January, 1936:** 43 wells, 1605 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 35.6. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** The Texas Co., Stanolind Oil & Gas Co., Gulf Oil Corp., Abshire-Bolyard Oil Co., Ratcliff Oil Co., Port City Oil Co., Jennings Petroleum Co., E. L. Myers, Cline, Smith & Cline, E. F. Simms. **Remarks:** Has been known as Evangeline.

NORTHEAST EGAN*

Four mi ne Egan prospect, around Sections 14, 15-9s-1w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927, reflection seismograph, Adams Louisiana Corporation, 1934; geophysics, Shell Petroleum Corp. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Magnolia Petroleum Co.

NORTH CROWLEY*

Eight mi n Crowley, Section 26-8s-1e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1935; also seismograph, Amerada Petroleum Corp. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

NORTH IOTA*

Section 10-8s-1w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1929. **Extent of Development:** Joint test of Calcasieu Oil Co., Union Sulphur Co. and Magnolia Petroleum Co., abnd in shale, 6229 ft, May, 1930.

RIVERSIDE*

Sections 42-8s-2w, 42, 43-8s-3w, 59, 60, 61, 62-9s-2w, 37, 38, 39, 1-9s-3w. **Means of Discovery:** Torsion balance, Paul Brandt, 1930. Structure type prospect. **Extent of Development:** Mills Bennett Production Co.'s Riverside Irrigation 1, Section 61, dry in shale, 7603 ft, 1934. **Principal Leaseholders:** Shell Petroleum Corp.

TEPETATE

Six mi nw of Iota, centering around Sections 28, 29 and 34-7s-2w. **Means of Discovery:** Torsion balance, Mordelo L. Vincent, 1930; reflection seismograph, Continental Oil Co., 1934. **Discovery Well:** Continental's Ortigo 1, 28-7s-2w, 200 bbls 35.5 gravity oil, 8313 ft, August 16, 1935. Estimated 20,000,000 cubic ft gas at 8303 ft, August 2, 1935. **Structure:** Deep seated salt dome or an anticline-type close structure. **Producing Formations:** Lower Marginulina-Frio sands, 8260-8313 ft; gas sand 8277 ft and 7773-77 ft. **Productive Area:** About 200 acres. **Extent of Development:** Through 1935, 5 oil, 1 dry. **Deepest Hole:** Continental's Klump 1, dr to 8999 ft, in Vicksburg, which showed salt water; was pb and completed at 8324 ft for a producer. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through 1935:** 126,881 bbls. **Indicated Remaining Reserves:** 9,873,119 bbls. **Daily Production in January, 1936:** 5 wells, 1291 bbls. **Oil Outlet:** Continental's 4-in line to Mezpique river, a 6-in oil line and an 8-in gas line to Calcasieu river, 50 mi; gas to be sold to industries at Lake Charles. **Range of Gravity:** 37-45. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Continental, L. C. Bowles. **Remarks:** First Lower Marginulina-Frio production found in the Louisiana Gulf Coast. Referred to as Basile.

TRILBY*

North and east of Tepetate field, centering around Sections 16, 20, 26 and 29-7s-1w. **Means of Discovery:** Geophysics, Gulf Refining Co., 1934. Area worked by Sun Oil Co., Humble Oil & Refining Co. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Gulf, Sun. **Remarks:** North Iota and Trilby considered by many as same.

ALLEN PARISH

BAYOU BLUE SPRINGS*

Section 10-6s-3w. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Sun Oil Co., Magnolia Petroleum Co. **Principal Leaseholder:** Humble.

MITTIE*

Two mi n and e of Ten Mile, Section 21-3s-5w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Extent of Development:** Humble's Industrial 1, sands showing oil, 7460-64 and 7564-70 ft, dr in Cockfield 8094 ft, 1935. **Principal Leaseholder:** Humble.

REEVES*

Sections 21, 33-6s-7w, sw Reeves. **Means of Discovery:** Geophysics, 1934-35, Humble Oil & Refining Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

*Prospect. †Salt dome, no production. ‡Gas field.

ASCENSION PARISH

DARROW

Sections 31, 32, 33-10s-2e. **Means of Discovery:** Torsion balance, Gulf Refining Co., 1927. **Discovery Well:** Rio Bravo Oil Co.'s Community 1, Section 31, 100 bbls, 28 gravity oil per hour, ½-inch choke, from sand at 4008-4035 ft, depth 4035 ft, flowed 2400 bbls, Sept., 1932. **Structure:** Salt dome, top salt 4900 ft. **Producing Formations:** Miocene sands, 4008-35 ft, 4776-4827 ft and 5513-5781 ft. **Productive Area:** About 275 acres. **Extent of Development:** Through 1935, 12 tests, 6 oil, 6 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Gumble 5, sw flank test, quit at 6901 ft in salt, January, 1936. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through 1935:** 267,192 bbls. **Indicated Remaining Reserves:** 14,732,808 bbls. **Daily Production in January, 1936:** 3 wells, 862 bbls. **Oil Outlet:** Barge, Mississippi river. **Range of Gravity:** 38.2. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Humble Oil & Refining Co., Rio Bravo Oil Co., Gulf Oil Corp.; S. A. Guidry State lands in Mississippi river on w edge of dome. **Remarks:** The discovery well had six sands showing oil before encountering sand in which it was completed. Humble's Gumble 2, sw flank test, extended production one mi and found a new producing horizon, January, 1935. A drill stem test from 5754-5781 ft showed 1500 ft of oil.

SORRENTO

Sections 14, 15, 22, 23-10s-4e. **Means of Discovery:** Gas seepages, refraction seismograph, Gulf Refining Co., 1926. **Discovery Well:** Gulf's United Lands Co. 4, Section 15, Feb. 1, 1928, 1000 bbls 26.4 gravity oil daily, from cap rock at 1657 ft. **Structure:** Salt dome, top cap rock 1568 ft, salt 1920 ft. **Producing Formations:** Cap 1615-1650 ft; Middle Oligocene, 4328 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 32 tests, 8 oil, 24 dry. **Deepest Hole:** Union Sulphur Co.'s White & Friant 2, west edge, quit in salt, April, 1934, 6565 ft. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through 1935:** 650,684 bbls. **Indicated Remaining Reserves:** 1,349,316 bbls. **Daily Production in January, 1936:** 3 wells, 1008 bbls. **Oil Outlet:** Barged. **Range of Gravity:** 26-32. **Rigs Running January, 1936:** One. **Principal Leaseholders:** Union Sulphur Co., Gulf Oil Corp., Athens Oil Co., Turnbull & Irwin. **Remarks:** First dome to produce oil east of the Mississippi river.

ASSUMPTION PARISH

GRASSEY LAKE*

Northeast of Morgan City, centering Section 13-15s-13e. **Means of Discovery:** Torsion balance, reflection seismograph, Shell Petroleum Corp., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Adams Louisiana Corp.

LABADIEVILLE*

Six mi nw Labadieville, Sections 33, 34, 36, 38-14s-15e. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1928, and later, Humble Oil & Refining Co. **Extent of Development:** Barnsdall Oil Co.'s Williams Cypress Co. 1, 38-14s-14e, no showings, abnd shale, 8154 ft, 1933. **Principal Leaseholder:** Humble **Remarks:** Shown in 1933 Gulf Coast Issue, The Oil Weekly as Avoca.

NAPOLEONVILLE†

Irregular Sections 41, 42, 45, 46-12s-13e. **Means of Discovery:** Gas seepage, seismograph, Gulf Refining Co., 1926. **Structure:** Salt dome; top cap rock 413 ft, salt 685 ft. **Extent of Development:** 16 dry holes, 1926-31 (including 10 sulphur tests). **Deepest Hole:** Gulf's Armalise Planting Co. 1, abnd water sand, 6037 ft. **Principal Leaseholders:** Gulf, Union Sulphur Co. **Remarks:** Sulphur tests by Union, Texas Gulf Sulphur Co.

BEAUREGARD PARISH

BANCROFT*

Three mi n Bancroft, centering Section 19-5s-12w. **Means of Discovery:** Pendulum, Gulf Refining Co., 1934. **Extent of Development:** F. W. Martin's Cochran 1, 34-4s-12w, quit in Cockfield, 6525 ft, July, 1934. **Principal Leaseholders:** Gulf Oil Corp., J. F. Richardson, Humble Oil & Refining Co., Simms Oil Co.

DE QUINCY*

Sections 22, 23, 26, 27-7s-12w; 26-6s-13w. **Means of Discovery:** Torsion balance, reflection seismograph, Federal Petroleum Co., 1934. **Extent of Development:** Federal Petroleum Co.'s Lutcher-Moore B-1, 26-6s-13w, show of oil 7878-7913 and 8395 ft, quit in Cockfield, 8415 ft; Lutcher-Moore 1, 4-7s-12w, quit at 8722 ft, August, 1934. Gulf Refining Co.'s Lutcher-Moore 1-A, 25-6s-12w, reported oil show in Cockfield, 7961 ft, abnd 8354 ft, December, 1934. **Principal Leaseholders:** Gulf, Federal, Magnolia Petroleum Co. **Remarks:** Gulf and Humble Oil & Refining Co. leased large blocks of Lutcher-Moore Lumber Co. land in this parish and the two companies worked together in surveying.

DRY CREEK*

Section 11-5s-7w. **Means of Discovery:** Surface geology; torsion balance and reflection seismograph, 1931. **Extent of Development:** Humble Oil & Refining Co.'s Long Bell 1, reported oil show in Cockfield, 8350 ft, abnd 9302 ft, May, 1934. **Remarks:** Leased originally by Adams Louisiana Co. Five mi ne above test, O'Brien Bros.' Long Bell 1, 34-14s-6w, Allen Parish abnd 6248 ft, May, 1933.

*Prospect. †Salt dome, no production. ‡Gas field.

CALCASIEU PARISH

BIG WOODS*

Three mi sw Lucas, centering Section 27-8s-12w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Extent of Development:** Humble's Industrial 1-B, 27-8s-12w, quit at 9532 ft, January, 1935. **Principal Leaseholder:** Humble. **Remarks:** Sometimes known as DeQuincy, the two areas being closely associated.

EAST LAKE CHARLES*

Centering Sections 16, 28-9s-7w. **Means of Discovery:** Geophysics, Shell Petroleum Corp., 1934; Wheeler Oil Co. **Extent of Development:** Wheeler's Gabbert 1, 28-9s-7w, quit at 8969 ft, April, 1935; School Land 1, 16-9s-7w, was fsh, 7160 ft, March, 1936. **Principal Leaseholders:** L. A. Wheeler, Shell.

EAST ORANGE*

Section 21-11s-13w. **Means of Discovery:** Torsion balance, pendulum, Gulf Refining Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf.

EDGERLEY

Sections 20, 21, 28, 29-9s-11w. **Means of Discovery:** Gas escapes; paraffin dirt. **Discovery Well:** Bright Oil Co.'s Bright 1, 1912, 250 bbls, 17.5 gravity, 1500 ft. **Structure:** Salt dome, top cap rock 3958 ft, salt 3991 ft. **Producing Formation:** Pliocene-Miocene sands at 2500 to 4200 ft. **Productive Area:** About 215 acres. **Extent of Development:** Through 1935, 246 test, 176 oil; 70 dry. **Deepest Hole:** Yount-Lee Oil Co.'s Sulphur Mining Co. 1, Section 33, se edge of field, quit in shale at 8414 ft, February, 1934, after having tried to blow out at 7900 ft. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through 1935:** 8,345,998 bbls. **Indicated Remaining Reserves:** 1,654,002 bbls. **Daily Production in January, 1936:** 18 wells, 229 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 17-35.7. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp., Rex Petroleum Corp., Wilson & Broach, Hercules Oil Co.,. C. M. Crotty, Green Oil Co., The Texas Co., Moore & Emerson.

ENGLISH BAYOU

One mi s of Gillis field, 6 mi ne Lake Charles, Sections 13, 14-9s-8w. **Means of Discovery:** Vacuum Oil Co., torsion balance, June, 1933, and later worked by Fohs Oil Co., Independent Exploration Co. did a reconnaissance picture for H. C. Cockburn. Geophysical Service Co. reflection seismograph, worked out several faults in the field. **Discovery Well:** Fohs Oil Co.'s Castle 1, 7067 ft oil sand topped at 7042 ft, 1400 bbls daily, February 8, 1935. **Structure:** Fault on a large salt ridge. **Producing Formations:** Marginulina sands of the Middle Oligocene, 7021-7102 ft, gas sand 6976 ft, and 7024 ft. On n side of fault, Union Sulphur Co.'s Castle 3 had sands 5156-5180 ft. **Productive Area:** Around 300 acres. **Extent of Development:** Through 1935, 15 tests, 10 oil, 5 dry. **Deepest Hole:** Fohs Oil Co.'s Airhart 1, dr to 9246 ft. October, 1935, tried to blow out, had sand from 9242-9246 ft, pb and comp for prod at 7060 ft. **Estimated Ultimate Recovery:** Included in with Gillis field. **Production Through 1935:** Included with Gillis field. **Indicated Remaining Reserves:** Included with Gillis field. **Daily Production in January, 1936:** Included with Gillis field. **Oil Outlet:** Fohs Oil Co. 6-in line to barge, Calcasieu river. **Range of Gravity:** 30-42. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** Fohs Oil Company, (1700 acres), Union Sulphur Co. **Remarks:** English Bayou pool is part of a large salt ridge which includes Gillis, Welch, Roanoke and possibly Lockport fields. Fohs Oil Co. by means of geophysical work and by drilling developed a major fault on the south half of the salt ridge and also radial faults in several tracts. (See Gillis field).

GILLIS

Seven mi ne of Lake Charles, centering around Sections 11, 12-9s-8w. **Means of Discovery:** Gas seepages; Union Sulphur Co., refraction 1928 and then rechecked with reflection seismograph. Shell Petroleum Corp., torsion balance, 1930. Gulf Refining Co., torsion balance, 1931. **Discovery Well:** Union Sulphur Co.'s Barbee Estate 2, came in flowing by heads a small stream of wash water with a trace of oil, October, 1934, closed in pressure 200 pounds; October 15, 1934, it flowed at the rate of 240 bbls, 35 percent salt water from 6760 ft. **Structure:** Deep seated salt dome. **Producing Formations:** Marginulina sands of the Oligocene series, at 6688 to 6787 ft, and 7144 to 7149 ft. **Productive Area:** Around 3000 acres. **Extent of Development:** Through 1935, 29 tests, 23 oil, 1 gas, 6 failures. **Deepest Hole:** Union Sulphur Co.'s Barbe Estate 1, quit at 8125 ft, April, 1934. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through 1935:** 2,259,876 bbls. **Indicated Remaining Reserves:** 12,740,124 bbls. **Daily Production in January, 1936:** 28 wells, 10,767 bbls. **Oil Outlet:** barge. **Range of Gravity:** 35.1. **Rigs Running January 1, 1936:** Four. **Principal Leaseholders:** Union Sulphur Co., The Texas Co., Fohs Oil Co., Magnolia Petroleum Co. **Remarks:** A large fault exists between English Bayou and Gillis field.

IOWA

Sections 7, 18-9s-6w, 12, 13-9s-7w. **Means of Discovery:** Gas seepage; seismograph, Shell Petroleum Corp., 1929. **Discovery Well:** Vacuum Oil Co.'s Bert T. Wait 1, Section 12, Jan. 1931, 300 bbls, 29 gravity oil, 5008 ft; deepened and completed October 19, 1931, 1500 bbls 40 gravity oil daily, 3/8-inch choke, sand at 6958-6971 ft. **Structure:** Regarded as deep salt dome, although no dome material encountered. **Production Formations:** Miocene sands at 4397, 4470, 4862, 5008, 5539, 5917 ft; Marginulina zone of Oligocene at 6636 to 7027 ft. **Productive Area:** Around 1000 acres. **Extent of Development:** Through 1935, 72 tests, 65 oil,

S

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one crater, six dry. **Deepest Hole:** Magnolia Petroleum Co.'s Bowman 1, dry in shale, 7590 ft, July, 1933. **Estimated Ultimate Recovery:** 45,000,000 bbls. **Production Through 1935:** 16,393,874 bbls. **Indicated Remaining Reserves:** 28,606,126 bbls. **Daily Production in January, 1936:** 53 wells, 18,908 bbls. **Oil Outlet:** Shell Pipe Line Co., 8-in to Calcasieu river, Barnsdall and Magnolia Pipe Line Co., 6-in. **Range of Gravity:** 29-41.5 degrees. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Shell, Magnolia, Barnsdall Oil Co. **Remarks:** Shell has a gasoline plant in the field. Dry gas is taken by United Gas Co.

LOCKPORT

Sections 8, 9-10s-9w. **Means of Discovery:** Gas escapes. **Discovery Well:** Vacuum Oil Co.'s Miller 1, Sept., 1924, 3000 bbls 24.5 gravity oil daily, 3876 ft. **Structure:** No cap rock or salt encountered, but structure regarded as deep seated salt dome. **Producing Formation:** Miocene and Middle Oligocene sands at 2200 to 2400; 2900 to 3400; 3855; 4350 to 5000 ft; 5000 to 5667 ft; and at 6461 to 6718 ft. **Productive Area:** About 300 acres. **Extent of Development:** Through 1935, 133 tests, 108 oil, 1 gas, 24 dry. **Deepest Hole:** Magnolia's Bordages 11, quit in shale, 7902 ft, May, 1934. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through 1935:** 13,470,008 bbls. **Indicated Remaining Reserves:** 6,529,992 bbls. **Daily Production in January, 1936:** 26 wells, 1067 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 23-41. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Magnolia and Gulf Oil Corp. (jointly), Stanolind Oil & Gas Co., Union Sulphur Co.

NIBLETTS BLUFF*

North of Toomey, centering Section 13-10s-12w. **Means of Discovery:** Surface indications, showings reported in shallow test. **Extent of Development:** Plummer & McDaniels' Couburn-Hood 1, 13-10s-12w, quit in water sand 7378 ft, February, 1935. A. G. Oliphant's Calcasieu National Bank 1, 23-10s-12w, was dr shale 5164 ft, March, 1936. **Principal Leaseholders:** Plummer & McDaniels, Steinberger Petroleum Co.

NORTHWEST STARKS*

Northwest Calcasieu Parish near Sabine River, Sections 6, 7, 8, 18, 19, 30-8s-13w. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1934. **Extent of Development:** Nichols McCaleb's Grey 1, abnd 1555 ft, August, 1935. **Principal Leaseholders:** Humble, Nichols McCaleb. **Remarks:** Humble explored 51,000 acres Sabine Tram Co. land in this area—see Bunker Hill, Newton County, Texas.

*Prospect. †Salt dome, no production. ‡Gas field.

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SOUTH LAKE CHARLES*

South of Lake Charles, centering Section 1-11s-9w. **Means of Discovery:** Reflection seismograph, Union Sulphur Co., 1935. Seismograph and torsion balance, Shell Petroleum Corp., 1935. **Extent of Development:** Union Sulphur Co.'s Prairie Farm 1, 1-11s-9w, quit in shale 9041 ft, September, 1935; Prairie Farm 2, 2-11s-9w, was dr water sand 9250 ft, top water sand 9244 ft, March, 1936. **Principal Leaseholders:** Union Sulphur Co., Fohs Oil Co., Shell, Mills Bennett Production Co. **Remarks:** Shell located structure under 33-10s-8w and 4-11s-8w. Pritchard & Lambert have a test underway in Dutch Cove area, 23-11s-10w.

STARKS

Sections 19, 30-9s-12w. **Means of Discovery:** Seismograph, Gulf Refining Co., 1925. **Discovery Well:** Gulf's Lutcher Moore 4, 2500 bbls, 4249 ft, February, 1927. **Structure:** Salt dome, top cap rock 1228 ft, salt 2218 ft. **Producing Formations:** Cap rock and sands at 525 to 1500 ft, Miocene and Oligocene sands 3025, 3422, 3721 ft, and 4100 to 4800 ft. **Productive Area:** About 95 acres. **Extent of Development:** Through 1935, 76 tests, 28 oil, 48 dry (about 20 of the dry holes were sulphur tests). **Deepest Hole:** Gulf's Industrial 13, 7207 ft, abn in shale, August, 1929. **Estimated Ultimate Recovery:** 4,000,000 bbls. **Production Through 1935:** 2,192,996 bbls. **Indicated Remaining Reserves:** 1,807,004 bbls. **Daily Production in January, 1936:** 17 wells, 480 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 18-31. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Gulf Oil Corp., Standard Oil Co. of La., jointly.

SULPHUR

Sections 20, 29-9s-10w. **Means of Discovery:** Oil seepage and surface elevation. **Discovery Well:** Union Sulphur Co.'s Fee 719, Dec. 24, 1926, 400 bbls 21.5 gravity oil daily, 3412 ft. **Structure:** Salt dome, top of cap rock 375 ft, salt 1460 ft. **Producing Formations:** Miocene-Oligocene sands at 2625 to 5000 ft; Middle Oligocene at 5000 to 6715 ft. **Productive Area:** About 100 acres. **Extent of Development:** Through 1935, 105 tests, 80 oil, 25 dry. Prior to oil development over 700 sulphur tests drilled. **Deepest Hole:** Union Sulphur Co.'s Fee 762, 9250 ft, dry, April, 1931. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through 1935:** 8,225,914 bbls. **Indicated Remaining Reserves:** 6,774,086 bbls. **Daily Production in January, 1936:** 49 wells, 2025 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 21-32. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Union Sulphur Co. fee lands. **Remarks:** Sulphur discovered in 1868; wells listed above include only tests made for oil after sulphur operations ceased. First sulphur production on coast and long world's most important supply, yielding 10,000,000 long tons 1903-1924.

VINTON

Sections 3, 4-11s-12w; 33, 34, 35-10s-12w. **Means of Discovery:** Oil and gas seeps; surface elevation. **Discovery Well:** Sabine Oil & Mineral Co.'s Johnson-Vincent 1, June 25, 1910, 60 bbls daily, 2230 ft. **Structure:** Overhanging type salt dome, top of cap rock 428 ft, salt 925 ft. **Producing Formations:** Pliocene-Miocene sands at 1872 to 3600 ft; Oligocene at 3450 to 3500 ft; and Lower Oligocene at 3650 to 3958 ft. **Productive Area:** About 275 acres. **Extent of Development:** Through 1935, 626 tests, 432 oil, 194 dry. **Deepest Hole:** Union Sulphur Co.'s Vincent 1, quit at 6553 ft, April, 1934. **Estimated Ultimate Recovery:** 50,000,000 bbls. **Production Through 1935:** 41,467,782 bbls. **Indicated Remaining Reserves:** 8,532,218 bbls. **Daily Production in January, 1936:** 80 wells, 2103 bbls. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 18-37. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Gulf Oil Corp., Vinton Petroleum Co., Edgerly Petroleum Co., The Texas Co., Seiss Oil Synd., Marrs McLean, Wilson-Broach Oil Co., Trio Oil Co.

CAMERON PARISH

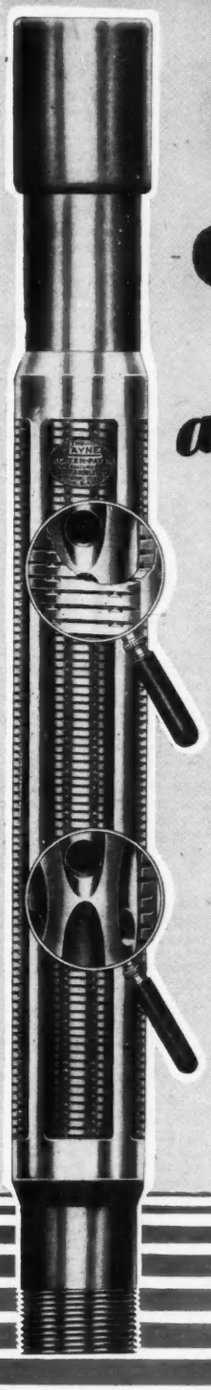
BLACK BAYOU

Sections 7, 8, 17, 18-12s-12w. **Means of Discovery:** Surface indications; seismograph, Shell Petroleum Corp., 1927. **Discovery Well:** Shell's Watkins 9, swabbed 29 bbls 19.6 gravity oil daily, 981 ft, April 15, 1929. **Structure:** Salt dome, top cap rock 884 ft, salt 1701 ft. **Producing Formations:** Miocene sands at 965 to 981 ft and 3897 to 4727 ft; Middle Oligocene at 5118 to 5263 and 6619 to 6638 ft. **Productive Area:** About 755 acres. **Extent of Development:** Through 1935, 33 tests, 18 oil, 15 dry, including several core tests. Several sulphur tests by Freeport Sulphur Co. **Deepest Hole:** Shell's State Lands 3, dr to 6905 ft, showed sand with oil around 6400 ft, and then used hole for experimental work with perforations, was finally abn September, 1935. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through 1935:** 2,997,106 bbls. **Indicated Remaining Reserve:** 7,002,894 bbls. **Daily Production in January, 1936:** 12 wells, 2730 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 18-23. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Shell, Brownie-Babbette Oil Co.

BIG LAKE‡

East of East Hackberry field, across Calcasieu Lake, Centering Section 13-12s-9w. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1935. **Discovery Well:** Magnolia's Broussard 1, perforations 8020 to 8026 ft, estimated 35,000,000 cubic ft of gas with small amount of 49.7 gravity distillate. Hole pb and perforations from 7944-7966 ft, dry gas and distillate, Dec. 24, 1935. **Structure:** Deep seated salt dome. **Producing Formations:** Marginulina, Oligocene series, 7944-66 ft. **Productive Area:** Only the discovery well. **Extent of Development:** One test, a gas well. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Magnolia Petroleum Co. **Remarks:** See Willow Lake Prospect.

THE LAYNE



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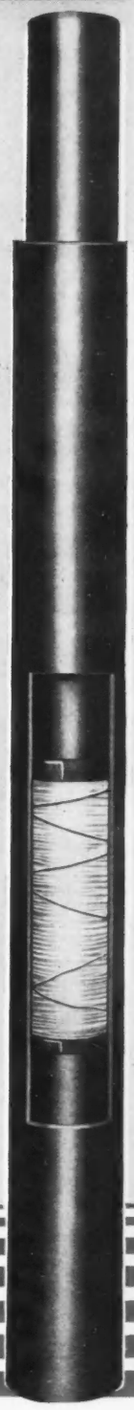

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CALCASIEU LAKE†

In Calcasieu Lake, one mi w of Section 36-13s-9w. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927. **Structure:** Salt dome, top cap rock 1490 ft, top salt 2345 ft. **Extent of Development:** Nine dry tests, through 1935. **Deepest Hole:** The Texas Co.'s Jessen 1. (See St. John Island). Rigs Running January 1, 1936: None. **Principal Leaseholder:** The Texas Company.

CAMERON*

South of Calcasieu Lake, centering Section 29-15s-10w. **Means of Discovery:** Reflection seismograph, Southern Sulphur Co., 1932. **Extent of Development:** Southern Sulphur Co.'s Gulf of Mexico 1, quit at 3200 ft, 1934. **Principal Leaseholders:** Southern Sulphur Co., Stanolind Oil & Gas Co.

CAMERON MEADOWS

Sections 16, 21-14s-13w. **Means of Discovery:** Gas seeps; seismograph and torsion balance, Vacuum Oil Co., 1929. **Discovery Well:** Vacuum's Cameron Meadows Ln. Co. 1, spray of 30 gravity oil, 3850 ft Jan. 20, 1931. First commercial well, Vacuum's No. 2, Section 21, 2400 bbls 41 gravity oil daily, ½-inch choke, Miocene sand, 5263-5273 ft, Oct. 10, 1931. **Structure:** Salt dome, top salt around 6400 ft. **Producing Formations:** Miocene sands at 3327 to 4969 ft and at 5235 to 5273 ft. **Productive Area:** About 350 acres. **Extent of Development:** Through 1935, 25 tests, 21 oil, one gas, three dry. **Deepest Hole:** The Texas Co.'s Miami Fee 1, dr to 9331 ft in salt. Top salt 9318 ft, pb 4200 ft, perforated csg, came in for oil producer from shallow sand. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through 1935:** 1,601,998 bbls. **Indicated Remaining Reserves:** 23,398,002 bbls. **Daily Production in January, 1936:** 18 wells, 4788 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 26-41. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Humble Oil & Refining Co., Burton Sutton Oil Co., Magnolia Petroleum Co.

EAST HACKBERRY

Sections 11, 12, 13, 14, 17, 19, 24, 27, 36-12s-10w; 46-12s-9w. **Means of Discovery:** Gas seeps; seismograph, Calcasieu Oil Co., 1926. **Discovery Well:** Calcasieu, Magnolia Petroleum Co. and Union Sulphur Co., Caldwell 2, 1000 bbls 3998 ft, Nov. 1927. **Structure:** Salt dome, top cap rock 2955 ft, salt 3538 ft. **Producing Formations:** Miocene-Pliocene sands at 2592 to 3046 ft; Miocene at 3800 to 4181 ft; Middle Oligocene 5797 to 6947 ft; Oligocene sands at 7277, 7325, 7490, 7598, 7664 ft, (oil shows 8320-8330 ft.) **Productive Area:** About 450 acres. **Extent of Development:** Through 1935, 172 tests, 113 oil, 59 dry. **Deepest Hole:** Union Sulphur Co.'s Gulf Fee Pure Lease 2, junked 8334 ft, Feb. 1933. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through 1935:** 12,633,642 bbls. **Indicated Remaining Reserves:** 12,366,358 bbls. **Daily Production in January, 1936:** 54 wells, 7288 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 27-32. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** Calcasieu Oil Co., Stanolind Oil & Gas Co., The Texas Co., Union Sulphur Co., Gulf Oil Corp.

*Prospect. †Salt dome, no production. ‡Gas field.

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HACKBERRY

Sections 16, 17, 20, 21, 22, 23, 27, 28, 29, 30-12s-10w. **Means of Discovery:** Elevation, gas seepage; paraffin dirt. **Discovery Well:** Cameron Oil Co.-Rycade Oil Corp.'s Duhon 1, 200 bbls, 22 gravity, 3154 ft, Dec. 1, 1928. **Structure:** Salt dome, top cap rock 1650 ft, salt 2078 ft. **Producing Formations:** Miocene-Pliocene sands at 2950 to 3250 ft; 3275 to 3633 ft; 3850 ft; 4300 to 4604 ft; and 5660 ft. **Productive Area:** About 85 acres. **Extent of Development:** Through 1935, 148 tests, 48 oil, 97 dry, three shallow tests for geophysical work. **Deepest Hole:** Federal Petroleum Co.'s Hebert 1, 7834 ft, dry, September, 1930. **Estimated Ultimate Recovery:** 4,000,000 bbls. **Production Through 1935:** 2,275,457 bbls. **Indicated Remaining Reserves:** 1,724,543 bbls. **Daily Production in January, 1936:** 21 wells, 360 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 22-37. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Stanolind Oil & Gas Co., Gulf Oil Corp., Humble Oil & Refining Co., Pure Oil Co., Rycade Oil Corp., Sunshine Oil Co., Rex Petroleum Corp., Federal Petroleum Co., Sun Oil Co., Moon Oil Co., Cameron Oil Co., Union Sulphur Co., R. E. Seiss, J. G. Sutton.

HANSZEN*

Eight mi ne Sweet Lake field, centering Sections 5-12s-6w, 34-11s-6w and 28-11s-7w. **Means of Discovery:** Torsion balance, reflection seismograph, Humble Oil & Refining Co., Gulf Refining Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble (7000 acres), Sun Oil Co., Harrison & Abercrombie, Gulf Oil Corp., Shell Petroleum Corp., Stanolind Oil & Gas Co.

JOHNSON'S BAYOU*

South of Sabine Lake, centering Sections 1, 10-15s-15w and 6-15s-14w. **Means of Discovery:** Surface indications; reflection seismograph, Magnolia Petroleum Co., 1935. **Extent of Development:** Yount-Lee Oil Co.'s Stark 1, quit at 7657 ft, January, 1930. Humble-Sun's Peterson 1, 6-15s-14w, dry, 5287 ft, 1926. **Principal Leaseholders:** Magnolia Petroleum Co., Stanolind Oil & Gas Co.

LAKE MISERE*

Section 8-14s-5w. **Means of Discovery:** Seismograph, Pure Oil Co., 1925. **Structure:** Appears structure type. **Extent of Development:** Undrilled. **Principal Leaseholders:** Pure Oil Co., Humble Oil & Refining Co.

MALLARD BAY*

On Mallard Bay and e of Grand Lake, centering Sections 4, 5, 9, 16-13s-3w; 31, 32-12s-3w. **Means of Discovery:** Reflection Seismograph, Shell Petroleum Corp., 1928. Torsion balance and reflection seismograph (2 to 12-12s-3w), Humble Oil & Refining Co., 1934. Reflection seismograph, Pure Oil Co., 1934. **Extent of Development:** Shell's Mareaux 1, 32-12s-3w, dry 7229 ft, 1930. **Principal Leaseholders:** Shell, Pure, The Texas Co., Humble.

MUD LAKE*

Sections 28, 29, 32, 39-14s-11w. **Means of Discovery:** Reflection seismograph, Gulf Refining Co., 1927. Reflection seismograph, Pan American Production Co., 1935. **Extent of Development:** Pan American's Lutcher-Moore 1, 14s-11w, quit at 9227 ft, January, 1936. **Principal Leaseholders:** Pan American, Humble Oil & Refining Co.

ST. JOHN'S ISLAND*

Centering Section 23-14s-10w. **Means of Discovery:** Torsion balance, Fohs Oil Co. Seismograph, The Texas Co. **Extent of Development:** The Texas Co.'s Jessen 1, slight show of oil, 7358 ft, quit 9030 ft, 1935. **Principal Leaseholders:** Fohs Oil Co., The Texas Co. **Remarks:** Sometimes referred to as Lower Calcasieu Lake.

SOUTHEAST CALCASIEU LAKE*

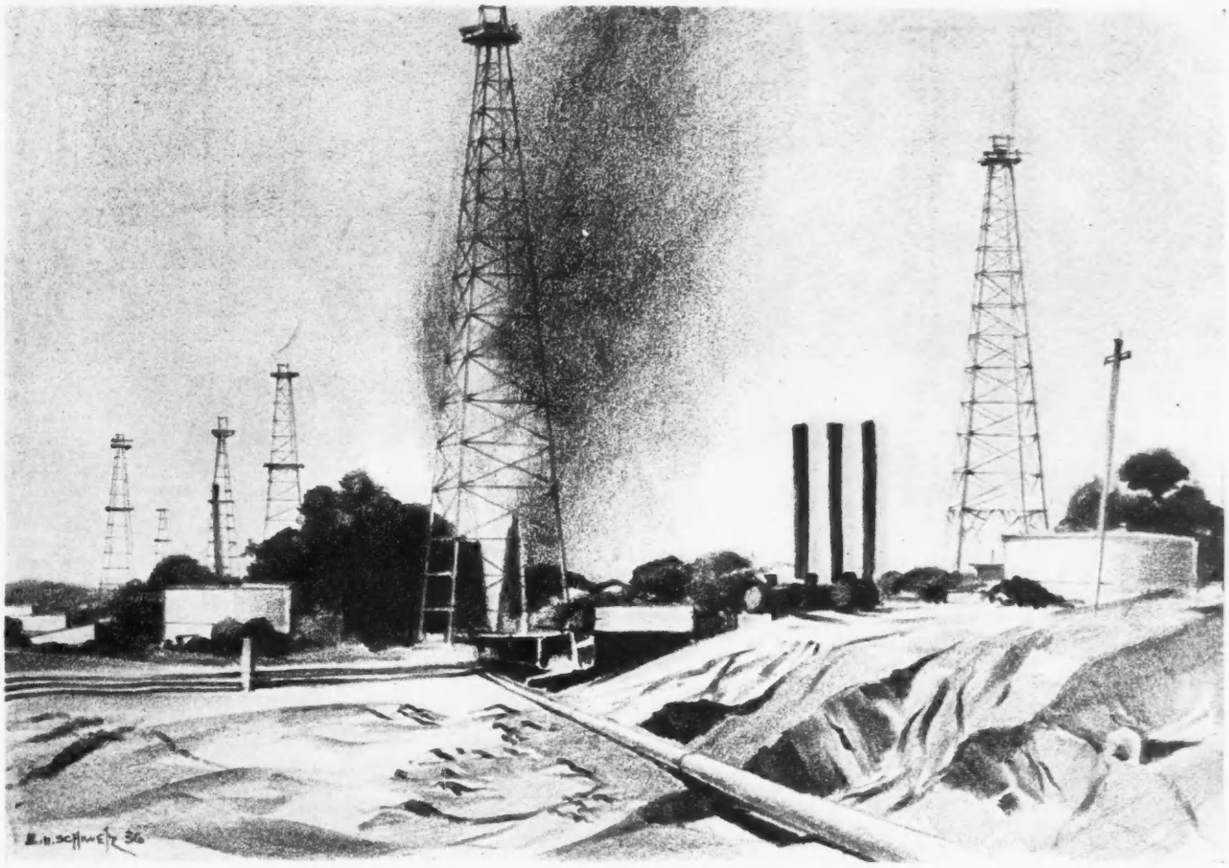
Six mi se Calcasieu Lake, 9 mi s Sweet Lake, centering Section 4-15s-8w. **Means of Discovery:** Seismograph, Independent Exploration Co., 1934. The Texas Co., 1934. **Extent of Development:** Several dry holes by The Texas Co. **Principal Leaseholders:** Pure Oil Co., Stanolind Oil & Gas Co.

SWEET LAKE

Section 12-13s-8w. **Means of Discovery:** Gas seepages. **Discovery Well:** Pure Oil Co.'s Sweet Lake 1, blew out and cratered at 4502 ft, 1926. Sweet Lake 2, flowed 193 bbls daily from 5195 ft, 1927. **Structure:** No salt dome material encountered, although regarded as possible deep seated salt dome. **Producing Formations:** Miocene sands at 4457 to 4594 ft; 5125 to 5897 ft; 6784 to 6813 ft; sands at 7366 to 7387 ft. **Productive Area:** About 85 acres. **Extent of Development:** Through 1935, 14 tests, 10 oil, one crater, three dry. **Deepest Hole:** Pure's Stanolind 12, drilled to 8196 ft, in heaving shale and was pb to 7363 ft and completed as a producer, 1935. **Estimated Ultimate Recovery:** 6,500,000 bbls. **Production Through 1935:** 2,943,418 bbls. **Indicated Remaining Reserves:** 3,556,582 bbls. **Daily Production in January, 1936:** Six wells, 1095 bbls **Oil Outlet:** Barge. **Range of Gravity:** 28.8. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Pure Oil Co.

WILLOW LAKE*

Centering Section 32-12s-8w. **Means of Discovery:** Geophysics, Magnolia Petroleum Co., 1934. **Extent of Development:** Magnolia's Miama 1, 32-12s-8w, was dr shale 7717 ft, March, 1936. **Rigs Running:** One. **Principal Leaseholder:** Magnolia.



RUNNING WILD — *From a lithograph by E. M. Schiwetz*

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RAM PACKING ABSORBS WEAR AUTOMATICALLY Cameron self-feeding ram packing automatically takes up all wear due to rotation and spudding. As rubber is slowly worn, reserve packing is fed out to the pipe, and a pressure-tight seal maintained. It is this exclusive feature which makes it possible to move your pipe continuously while circulating to kill a blowout.

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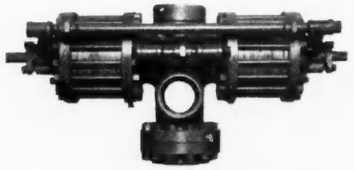
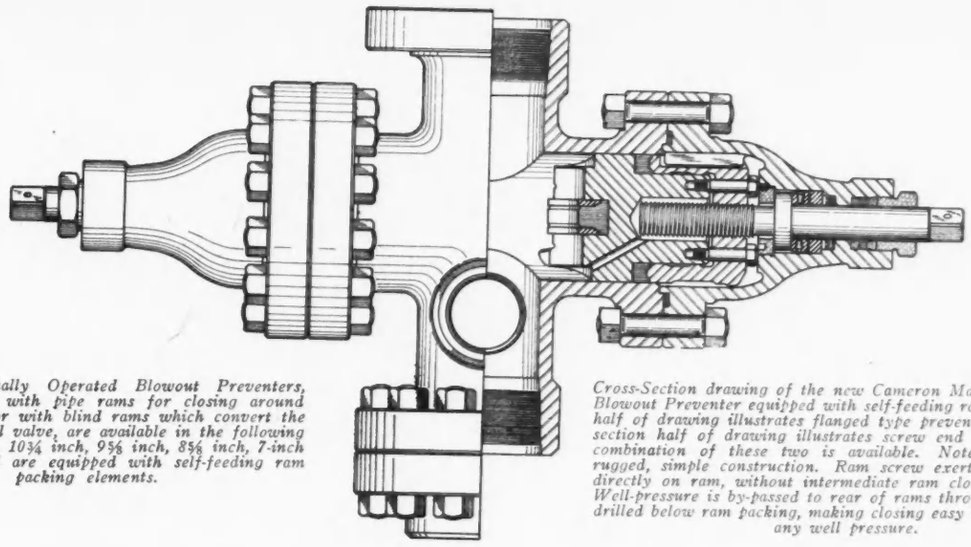


For more than a year, now, Cameron self-feeding ram packing has been standard equipment in all Cameron Type "SDA" Pressure Operated Blowout Preventers. This unit, conceded in oilfields throughout the world to be the last word in blowout prevention, combines absolutely positive control with high speed closing. Unsolicited reports of remarkable performance under the worst blowout conditions confirm our claims that the Type "SDA" Blowout Preventer is the most effective unit of its kind ever built.

EQUALIZED RAM PRESSURE MAKES CLOSING EASY Well pressure is equalized, front and rear, on Cameron rams in this preventer. Needless to say, this makes manual closing easy against the highest well pressures. Pressure on rear of rams is held by a heavy seal ring. Easy closing encourages and gives confidence to well crews in an emergency blowout.

RAMS CENTER PIPE AUTOMATICALLY Pipe hanging off center in the well bore is automatically centered by Cameron self-centering rams in these new manual preventers. Your crew is never called on, during a blowout, to force pipe to center so rams may be closed.

RAMS HOLD PIPE UP A special recessed shoulder on top side of rams permits suspending long strings of pipe on closed rams. This feature has frequently proven of great value to operators under varying conditions.



Cameron Manually Operated Blowout Preventers, equipped either with pipe rams for closing around any size pipe, or with blind rams which convert the unit to a control valve, are available in the following sizes: 13⅜ inch, 10¾ inch, 9⅝ inch, 8⅝ inch, 7-inch and 5-inch. All are equipped with self-feeding ram packing elements.

Cross-Section drawing of the new Cameron Manually Operated Blowout Preventer equipped with self-feeding ram packing. Left half of drawing illustrates flanged type preventer, while cross-section half of drawing illustrates screw end preventer. Any combination of these two is available. Note especially the rugged, simple construction. Ram screw exerts closing thrust directly on ram, without intermediate ram closing mechanism. Well-pressure is by-passed to rear of rams through hole in ram drilled below ram packing, making closing easy and sure against any well pressure.

ROTATE OR SPUD THRU CLOSED RAMS

RAMS HOLD PIPE DOWN A special recessed shoulder on the bottom of each ram positively prevents pipe from being blown from the hole when rams are closed. This feature is of great value when a blowout occurs with but little pipe in the hole.

PIPE AND BLIND RAMS INTERCHANGEABLE Any manually operated Cameron blowout preventer can be converted into a gate valve by substituting blind rams, with self-feeding packing, for pipe rams. This doubles the field of usefulness of any Cameron manual preventer.

LARGE-POWERFUL RAM CLOSING SCREWS Large, powerful steel ram closing screws exert a direct closing thrust on the rams of these new preventers. NO INTERMEDIATE RAM CLOSING MECHANISM IS EMPLOYED, thus reducing possibilities for trouble to an absolute minimum.

RAM THRUST ABSORBED BY TIMKEN TAPERED ROLLER BEARING To make closing easy, and reduce friction to the lowest possible degree, ram closing screw thrust is absorbed by a large Timken Tapered Roller Bearing.

DOUBLE SEAL PROVIDED AROUND RAM SCREW In addition to a large stuffing box around the ram closing screw, an auxiliary lip seal ring is also provided in the new Cameron manual preventers. This construction gives double assurance against possibility of leakage through the bonnet.

FLOW-LINE OUTLETS PROVIDED—NO EXTRAS TO BUY Large flowline outlets are made integral with each Cameron manual preventer—saving the user a considerable investment in fittings which would otherwise be required. Also, this feature reduces to a minimum connections which must be kept pressure tight.

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FLANGES CONNECTED WITH STUD BOLTS—NOT STUDS All Cameron flanges, bonnet and casing, are connected with large stud bolts having nuts on each end. This construction is more costly, but eliminates possibility of trouble arising from use of studs, such as freezing, twist offs, damaged threads, etc., etc.,

LOW OVERALL HEIGHT REQUIRES LITTLE ROOM These exceedingly compact preventers have a very low overall height, and thus require but a minimum of room under the derrick floor.

AVAILABLE IN FLANGED OR SCREW-END TYPES All sizes of Cameron Manually Operated Blowout Preventers are available in both screw end, flanged end or combination construction to meet any requirement.

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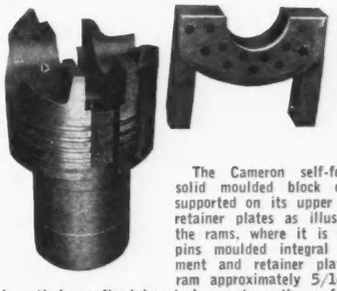
Operators who require or prefer manually operated blowout preventers, in any size or any standard pressure, are cordially invited to write, wire, 'phone or call personally at our plant with reference to the proper Cameron Manually Operated Blowout Preventer for their use. Or, on request, we will gladly send a competent field representative to discuss the matter with you. On the basis of 15 years constant development and building of ram-type blowout preventers, we confidently believe that the new Cameron Manual Preventer offers more features and advantages, at a competitive price, than any other preventer manufactured. Your inquiries will be given prompt and intelligent handling.



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The Cameron self-feeding ram packing element is a solid moulded block of special rubber packing material, supported on its upper and lower faces by substantial steel retainer plates as illustrated. When snapped into place in the rams, where it is securely held by steel dowel locking pins moulded integral with the packing, the packing element and retainer plates extend beyond the face of the ram approximately 5/16 inch. The rubber packing material is entirely confined by steel except on the surface which contacts the pipe. In this manner a reservoir of packing material, which feeds automatically as needed, is incorporated in each ram. When rams are closed around the pipe, the metal plates of the moulded packing in the opposing rams contact each other, and the rubber packing is then entirely confined by steel. Upon application of additional pressure, the rubber is forced to flow to the pipe surface, thereby making a positive, leak-proof shut-off. Wear on packing due to rotation or spudding of pipe through closed rams is automatically taken up, and a pressure-tight seal is assured even on irregular, worn, or undersized pipe.

Self-feeding packing is an exclusive feature of Cameron Iron Works, Inc., blowout preventers, and represents the greatest advance in blowout prevention in more than a decade.

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EAST BATON ROUGE PARISH

NORTH BASILE*

Northeast of Basile, centering Section 14-6s-2w. **Means of Discovery:** Magnetometer, Frank Muckfer. Torsion balance, Stanolind Oil & Gas Co., 1934; seismograph, 1935. **Extent of Development:** Basile Oil Co.'s Hirsch 1, 14-6s-2w, show oil and gas, 6994-7052 ft and 7534 ft; topped sand 7185 ft, show oil 6994-7052 ft and 8046-50 ft on ether test, one foot gas sand 8050-59, quit at 8438 ft, March, 1936. **Rigs Running:** One. **Principal Leaseholders:** Stanolind, W. Davis et al.

REDDELL*

Three mi n and e Reddell, centering Section 22-4s-1w. **Means of Discovery:** Surface indications, gravity meters, reflection seismograph, torsion balance, pendulum, Humble Oil & Refining Co., 1934. **Structure:** Indicated dome formation or some unusual sub-surface structure. **Extent of Development:** Humble's Haas 1, 22-4s-1w, showings of oil between 6627-31 ft, abnd 8014 ft. **Principal Leaseholders:** Humble, The Texas Co., Shell Petroleum Corp.

UNIVERSITY BLOCK*

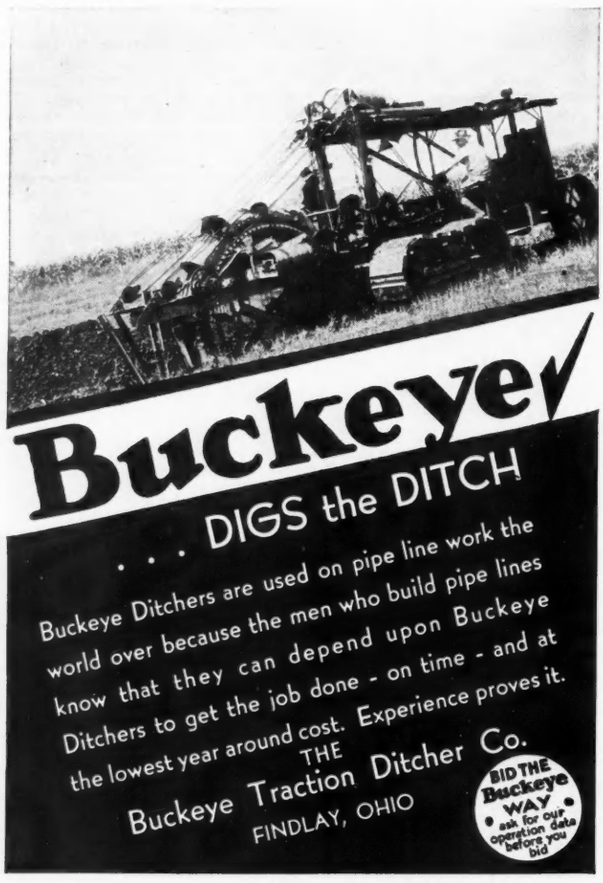
South of Baton Rouge, centering Section 65-7s-1w. **Means of Discovery:** Reflection seismograph, Hoard Exploration Co., 1935. **Extent of Development:** Superior Oil Producing Co.'s Duplantier Community 1, 65-7s-1w, drilled to 10,360 ft, October, 1935; had several oil and gas shows between 6200-8600 ft, good show oil in Marginulina, 8534-88 ft, with lower section salt water; plugged back and perforated at 6500-05 ft, showed oil and gas with salt water, abandoned. **Principal Leaseholders:** Superior (16,000 acres). **Remarks:** Community 1 was fourth Gulf Coast test below 10,000 ft and was equipped with heaviest rig, capable of going 15,000 ft.

EVANGELINE PARISH

PINE PRAIRIE

Sections 35, 36-3s-1w. **Means of Discovery:** Outcrop of limestone of cap rock. **Discovery Well:** Myles Mineral Co.'s No. 8, 1912, 1000 bbls., 1300 ft. **Structure:** Salt dome, cap rock at surface, top salt 516 ft. **Producing Formations:** Cap at 1300 ft and Miocene at 2340 ft. **Productive Area:** About 25 acres. **Extent of Development:** Through 1935, 35 tests, four oil, 31 dry. **Deepest Hole:** The Texas Co.'s Guillory 2, abnd 4832 ft. **Production Through 1935:** 20,000 bbls. (Field has been abnd.) **Daily Production in January, 1936:** None. **Rigs Runnings January 1, 1936:** None.

*Prospect. †Salt dome, no production. ‡Gas field.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IBERIA PARISH

AVERY ISLAND†

Sections 37, 38, 39, 53, 56-13s-5e; 55, 56, 57, 58, 59-13s-6e. **Means of Discovery:** Elevation above marshes. Rock salt found May 6, 1862, by John Marsh Avery. **Structure:** Salt dome, no cap rock, salt at 35 ft. **Extent of Development:** Through 1935, three tests, all dry. **Deepest Hole:** Louisiana Land & Exploration Co.'s Avery Isle 2, abnd 5873 ft 1928. **Remarks:** Salt mine.

FAUSSE POINT

Sections 26, 27, 34-11s-8e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1926. **Discovery Well:** Union Sulphur Co.'s Shaw Fee 1, 200 bbls., 1394 ft, Feb., 1927. **Structure:** Salt dome, top cap rock 800 ft, salt 850 ft. **Producing Formations:** Pliocene sand and cap rock, 1123 to 1392 ft. **Productive Area:** About 10 acres. **Extent of Development:** Through 1935, 19 tests, 3 oil, 16 dry. **Deepest Hole:** The Texas Co.'s State Lake Fausse Point 1, 35-11s-8e, 6400 ft, pb 6000 ft, dr shale 5816 ft, March, 1936. Had shows of oil 3807 ft. **Production Through 1935:** 11,810 bbls. all in 1927-1928. **Daily Production in January, 1936:** None. **Oil Outlet:** Barge. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Gulf Oil Corp., The Texas Co. **Remarks:** Was called Loreauville and Eagle Point.

JEFFERSON ISLAND†

Township 13s-5e, immediate area of Lake Peigneur. **Means of Discovery:** Elevation; rock salt found at 334 ft by Joe Jefferson, noted actor, 1895. **Structure:** Salt dome; top cap rock 78 ft, top salt 80 ft. **Producing Formations:** Salt from salt plug and sulphur from cap rock over salt. **Extent of Development:** Through 1935, 8 tests all dry. **Deepest Hole:** Jefferson Lake Oil Co.'s Lake Peigneur 274, 8469 ft, 1935; show oil 8447-68 ft, made salt water, dr to 8610 ft in salt, top salt 8474 ft, pb 8484 ft, to perforate March, 1936. **Rigs Running January 1, 1936:** Two. **Remarks:** Sulphur mined by Jefferson Lake Oil Co.; salt being mined.

NEW IBERIA

Sections 51, 53, 54 and 56-12s-7e. **Means of Discovery:** Elevation, gas seepages, paraffine beds. **Discovery Well:** Gulf Refining Co. and New Iberia Oil Co.'s Boliver 1, 124 bbls, from cap rock, 1072-1078 ft, 1917. **Structure:** Salt dome, top salt 805 ft. **Producing Formations:** Cap rock at 1078 ft; Pliocene-Miocene sands at 1900 ft, 2631 ft, and 3100 ft. Miocene sands 3828 ft, 4650 to 4737 ft, and 5385 to 5401 ft. (Showings of oil gas in the Oligocene formation from 7548 to 7677 ft and 6764 to 6780 ft.) **Productive Area:** About 100 acres. **Extent of Development:** Through 1935, 41 tests, 8 oil, 33 dry. **Deepest Hole:** The Texas Co.'s H. C. Hanszen 1, Section 54, quit at 7934 ft, in heaving shale, March, 1935. Topped Oligocene at 7548 ft, had sand showing oil 7637 to 7677 ft, show gas 7548 ft, top heaving shale 7778 ft. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 693,598 bbls. **Indicated Remaining Reserves:** 4,306,402 bbls. **Daily Production in January, 1936:** Two wells, 3002 bbls. **Oil Outlet:** Harrison & Abercrombie, 6-in to Bayou Teche, barge. **Range of Gravity:** 29. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Y. D. Spell, Canal Oil Co., The Texas Co., Harrison & Abercrombie, Helis Oil Co. **Remarks:** Was known as Little Bayou.

VERMILION BAY†

In Vermilion Bay near northeast corner Township 16s-5e (extended). **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1917. **Structure:** salt dome; top cap rock 787 ft, top salt 796 ft. **Extent of Development:** Six tests, all dry. **Deepest Hole:** The Texas Co.'s State Vermilion Bay 5, dry 6528 ft, 1930. **Principal Leaseholder:** The Texas Co. **Remarks:** The Texas Company drilled four tests on top of dome and plans to seek flank production. Lease calls for three tests within year.

WEEKS ISLAND†

Sections 37, 38, 41, 42-14s-6e; 46, 47, 48, 49-14s-7e. **Means of Discovery:** Elevation above marshes; rock salt found by E. F. Myles, July 25, 1897, 276 ft. **Structure:** Salt dome; very little cap rock, top salt 100 ft. **Extent of Development:** Five tests, all dry. **Remarks:** Salt mined since 1902.

IBERVILLE PARISH

BARATARIA*

Section 2-16s-23e. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., 1928; later worked with torsion balance before drilling. Geophysics, Gulf Refining Co., 1935. **Extent of Development:** Humble's Delaware Fur Co. 1, dry 7629 ft, 1930. **Principal Leaseholder:** Humble. **Remarks:** Gulf and The Texas Company each have large blocks for exploration in this area.

BAYOU BLUE

Sections 67, 72-9s-11e; 68, 74, 75-9s-10e. **Means of Discovery:** Seismograph, Calcasieu Oil Co., 1926. **Discovery Well:** Standard Oil Co. of La.'s Wilbert 3, 15 bbls 18.7 gravity oil daily, 1928 ft, September, 1929. **Structure:** Salt dome, top cap rock 2792 ft, salt 2802 feet. **Producing Formations:** Miocene-Pliocene sands, 1945 and 3696 ft. **Productive Area:** About 25 acres. **Extent of Development:** Through 1933, 16 tests, 6 oil, 10 dry. **Deepest Hole:**

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Standard's Schwing 6, abnd, 1931, 6579 ft. **Production Through 1935:** 69,568 bbls. **Daily Production in January, 1936:** None. **Oil Outlet:** Barge. **Range of Gravity:** 18.7. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Standard Oil Co., Humble Oil & Refining Co.

BAYOU DE GLAISE†

Irregular Sections 78, 79, 85, 86-8s-8e. **Means of Discovery:** Seismograph, Calcasieu Oil Co., 1926. **Structure:** Salt dome; top cap rock 3478 ft, top salt 3697 ft. **Extent of Development:** Six tests all dry. **Deepest Hole:** Standard Oil Co. of La.'s Wilbert 8, dry 4295 ft, 1931. **Principal Leaseholders:** Standard, Union Sulphur Co.

CHOCTAW

Sections 52, 53-9s-11e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1926. **Discovery Well:** Standard Oil Co. of La.'s Gay 1, Section 52, 500 bbls 29 gravity oil daily, 1/8-in choke, 4355 ft, June 22, 1931. **Structure:** Salt dome, top cap rock 415 ft, salt 667 ft. **Producing Formations:** Miocene sands, 2435 to 2894 ft, 4129 to 4353 ft, 4515 to 4581 ft, 5413 to 5423 ft. **Productive Area:** About 90 acres. **Extent of Development:** Through 1935, 13 tests, 7 oil, 6 dry. Several sulphur tests have been drilled. **Deepest Hole:** Standard's Gay 2, abnd in salt water 6294 ft, May, 1932. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 933,184 bbls. **Indicated Remaining Reserves:** 4,066,816 bbls. **Daily Production in January, 1936:** Six wells, 1250 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 29. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Standard and Gulf Oil Corp. jointly; with sulphur rights subleased to Texas Gulf Sulphur Co. **Remarks:** Formerly called Bayou Choctaw; Grosse Tete.

RAMAH*

Section 59-7s-9e. **Means of Discovery:** Geophysics, Humble Oil & Refining Co. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Barnsdall Oil Co., Sun Oil Co. **Remarks:** Barnsdall's original work failed to indicate structure. Humble, working from Bayou Maringouin down to Rosedale and Ramah, reported highs in Sections 66-7s-9e, and 59-9s-7e.

SOUTHEAST PLAQUEMINES*

On Mississippi River, 3 mi se Plaquemines, Twps. 9 and 10s, R 12 and 13e. **Means of Discovery:** Reflection seismograph, Hoard Exploration Co. for Superior Oil Producing Co., 1934. Reflection, Shell Petroleum Corp., 1935. **Principal Leaseholders:** Shell, Gulf Oil Corp.

WHITE CASTLE

Sections 1, 2, 3, 8, 9, and 12-11s-12e. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1926. **Discovery Well:** Shell's Wilbert 3, 75 bbls 21 gravity oil daily, 5836 ft, October, 1929. **Structure:** Salt dome, top cap rock 1810 ft, salt 2313 ft. **Producing Formations:** Miocene sands 5163 to 5175 ft, 5700 to 5836 ft, 6559 ft and 8893 to 8908 ft. **Productive Area:** About 175 acres. **Extent of Development:** Through 1935, 10 tests, 6 oil, 4 dry. **Deepest Hole:** Shell's Adams 1, dr to 8942 ft. **Estimated Ultimate Recovery:** 6,000,000 bbls. **Production Through 1935:** 1,447,115 bbls. **Indicated Remaining Reserves:** 4,552,885 bbls. **Daily Production in January, 1936:** Seven wells, 861 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 24-27.5. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** Shell.

JEFFERSON PARISH

LAFITTE

Six mi se Lafitte, Sections 19, 20, 29 and 30-17s-24e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1933. Geophysical work by Louisiana Land & Exploration Co. **Discovery Well:** The Texas Co.'s Bayou St. Denis 1, 1100 bbls 34.9 gravity oil, 9572 ft, May 16, 1935. **Structure:** Deep seated salt dome. **Producing Formations:** Oligocene sands from 9520 to 9640 ft. The discovery well had over a dozen showings of oil from 5137 to 9572 ft. **Productive Area:** About 750 acres. **Extent of Development:** Through 1935, 3 producers. **Deepest Hole:** The Texas Co.'s Bayou St. Denis 2, producer, 9647 ft. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through 1935:** 516,526 bbls. **Indicated Remaining Reserves:** 19,483,474 bbls. **Daily Production in January, 1936:** Three wells, 3251 bbls. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Range of Gravity:** 34.9. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** The Texas Co. **Remarks:** The deepest commercial producing field in the Gulf Coast and one of the deepest in the world. Also known as Bayou St. Denis.

JEFFERSON DAVIS PARISH

CHINA*

Three mi se China, Section 26-7s-3w. **Means of Discovery:** Geophysics, Stanolind Oil & Gas Co., 1934-35, and others. **Extent of Development:** Undrilled; tentative location has been made in SE 27-7s-3w. **Principal Leaseholders:** Stanolind, Gulf Oil Corp., Skelly Oil Co. **Remarks:** Since discovery of Tepetate, Acadia Parish, a trend play has started, working 30 mi east and west from that field. General opinion is that sub-surface will show terracing and faulting. This theory is substantiated by J. K. Lewis' Lock-Moore 1 (see Lock-Moore, Jefferson Davis Parish) and Superior Oil Producing Co.'s Smith 1 (see Bayou Mallett, Acadia Parish) as both wells are higher than normal.

HAYES*

Four mi se Bell City on Calcasieu-Jefferson Davis line, centering Sections 20, 27-11s-5w and 28, 29, 32, 33-10s-5w. **Means of Discovery:** Reflection seismograph, torsion balance, Humble Oil & Refining Co., Gulf Refining Co., 1929; Stanolind Oil & Gas Co., Shell Petroleum Corp., 1935. **Extent of Development:** Gulf's Sweet Lake L&O Co. 1, 29-10s-5w, abnd 8900 ft, 1934. Shell's Lacassine Irrigation Co. 1, 20-11s-5w, 9344 ft, well tried to blow out, showed 1000-pound pressure on chokes, dr 9721 ft in shale March, 1936. **Principal Leaseholders:** Shell, Stanolind, Gulf. **Remarks:** Porter & Blanchard have 7000 acres in Sections 1, 2, 3, 10, 11, 12, 13, 14, 22, 23, 24-10s-6w, nw of Hayes. Geophysical work has shown various results in the trend along Calcasieu-Jefferson Davis line.

LOCK-MOORE*

East of Heckner, centering Section 32-7s-6w. **Means of Discovery:** Reflection seismograph, Superior Oil Producing Co., 1935; geophysics, Gulf Refining Co., 1934; Humble Oil & Refining Co., 1935. **Extent of Development:** J. K. Lewis' Lock-Moore 1, 32-7s-6w, drilled to 6046 ft, stuck drill stem, plugged back now dr 5500 ft in shale. **Principal Leaseholders:** Superior, J. K. Lewis.

NIBLETT FARMS*

Sections 1, 12-11s-5w; 6, 7-11s-4w. **Means of Discovery:** Torsion balance, Louisiana Gulf Oil & Sulphur Co., 1930.

ROANOKE

Centering around s½ Section 1, SEc SE Section 2, N½ Section 11, N½ Section 12, NW 11-9s-4w. **Means of Discovery:** Surface indications; torsion balance minimum, Vacuum Oil Co., 1928. Relection seismograph also showed as definite high. **Discovery Well:** Shell Petroleum Corp.'s Kratzer 1, 660 ft s 330 ft w of ne cor NW Section 12-9s-4w, 50 bbls 37 gravity oil per hour through 18/64-inch choke from Marginulina sand at 8665-8682 ft, May 24, 1934. **Structure:** Apparently a deep seated salt dome, although no cap rock or salt reached. **Producing Formations:** Margulina zone of Oligocene, 7597 ft, 7778 to 7934 ft, 8644 to 8695 ft; gas sand 8814 ft. **Productive Area:** About 700 acres. **Extent of Development:** Through 1935, 27 tests, 13 oil, 1 gas, 13 dry. **Deepest Hole:** Shell's Jarnigan 1, e offset to the discovery well, quit at 10,750 ft, September, 1935; tried to blow out 9999½ ft. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through 1935:** 1,863,540 bbls. **Indicated Remaining Reserves:** 8,136,460 bbls. **Daily Production in January, 1936:** 13 wells, 5934 bbls. **Oil Outlet:** Shell Pipe Line Co., 8-in. **Range of Gravity:** 39-41. **Rigs Running January 1, 1936:** Two. **Principal Leaseholders:** Shell, Humble Oil & Refining Co., John and Aston Glassel, Gulf Oil Corp.

SOUTH JENNINGS*

Sections 3, 9, 15, 22, 27-10s-3w. **Means of Discovery:** Geophysics, Shell Petroleum Corp., 1934; Stanolind Oil & Gas Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind, Gulf Oil Corp., St. Germaine, E. A. Showers.

SOUTH ROANOKE*

South of Roanoke, Section 23, 24-10s-4w. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1935. **Extent of Development:** Undrilled; immediate test contemplated. **Principal Leaseholder:** Shell.

SOUTH WELSH*

Sections 36-9s-5w, 31-9s-4w, 1-10s-5w, 6-10s-4w. **Means of Discovery:** Seismograph, Pure Oil Co., 1929. **Extent of Development:** Pure's Day 1, dry 5216 ft, 1930.

WELSH

Sections 21, 22, 27, 28-9s-5w. **Means of Discovery:** Elevation, gas seep. **Discovery Well:** Welsh Home Dev. & Oil Co.'s No. 2, 1902, blew out, 1001 ft. Rio Bravo Oil Co.'s No. 1, first oil, January, 1903, at 1012 ft. **Structure:** Regarded as deep seated salt dome, but no dome material encountered. **Producing Formations:** Pliocene sands at 1000 to 1300 and 1783 to 3000 ft. **Productive Area:** About 50 acres. **Extent of Development:** Through 1935, 110 tests, 67 oil, 43 dry. **Deepest Hole:** H. T. McClain et al's Trumbell Atterbury 1, dry, March, 1931, 6075 ft. **Estimated Ultimate Recovery:** 750,000 bbls. **Production Through 1935:** 587,326 bbls. **Indicated Remaining Reserves:** 162,674 bbls. **Daily Production in January, 1936:** 17 wells, 39 bbls. **Oil Outlet:** Truck. **Range of Gravity:** 21.6. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Stanolind Oil & Gas Co., Tide Water Oil Co.

WOODLAWN*

West of Welsh field, sw Woodlawn, Sections 9, 25-9s-6w. **Means of Discovery:** Seismograph, torsion balance, Shell Petroleum Corp., Calcasieu Oil Co., Gulf Refining Co., 1927. **Extent of Development:** Strake Petroleum Co.'s Pettigrew 1, dry 7348 ft., March, 1934; Calcasieu National Bank 1, odor oil 8080-91 ft, sand showing oil, 7331-35 ft, quit at 8505 ft, 1935. Several shallow tests, no showings. **Principal Leaseholders:** Gulf Oil Corp., Strake Petroleum Co., Magnolia Petroleum Co. **Remarks:** Strake's Calcasieu Bank test thought to mark edge of large structure.

LAFAYETTE PARISH

CARENCRO*

Section 33-8s-4e. **Means of Discovery:** Seismograph, Pure Oil Co., 1930. **Extent of Development:** Pure's Manmotin 1, dry 6742 ft, 1930. **Remarks:** See Bristol prospect, St. Landry Parish.

DUSON*

Section 4, 5-10s-3e. **Means of Discovery:** Torsion balance, Coastal Oil Finding Co., Continental Oil Co., Magnolia Petroleum Co., 1935. **Structure:** Reported 450 ft closure. **Extent of Development:**

*Prospect. †Salt dome, no production. ‡Gas field.

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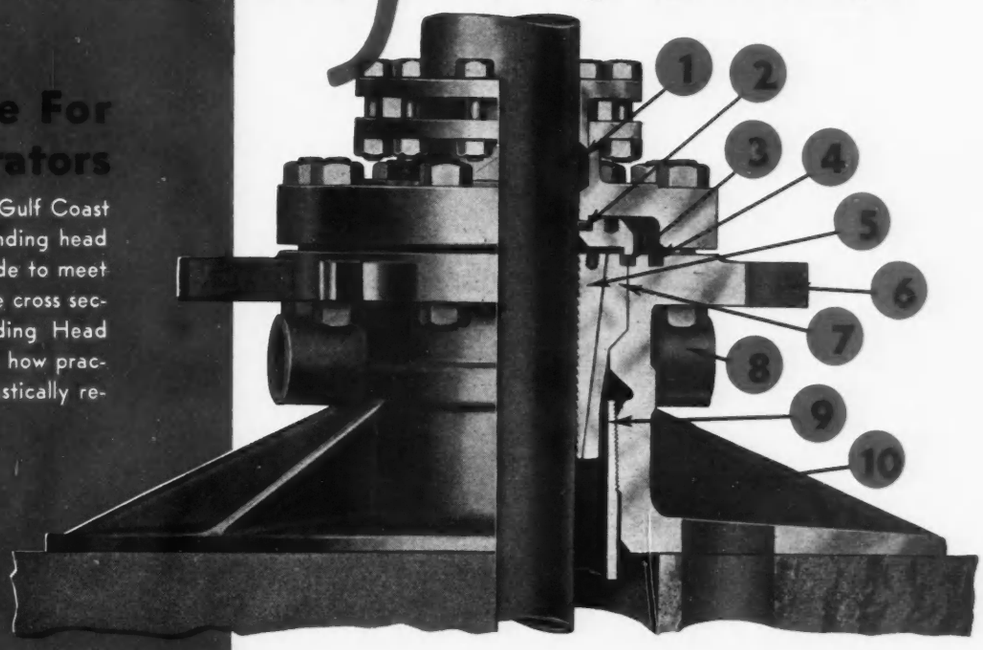

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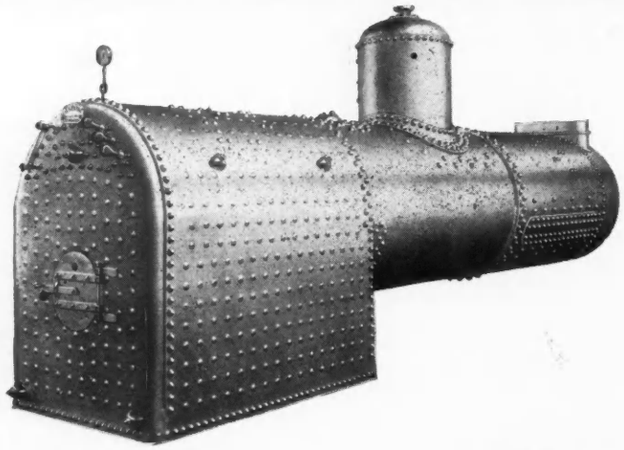

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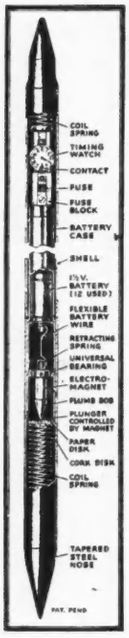
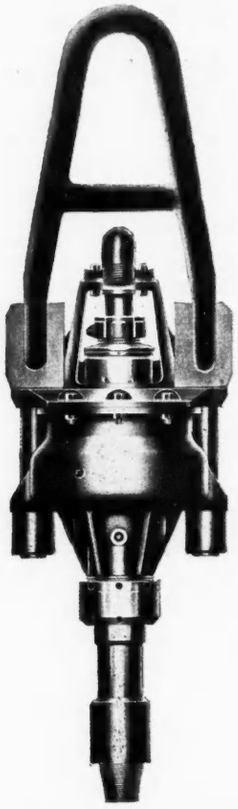


DRIFTMETER JR.



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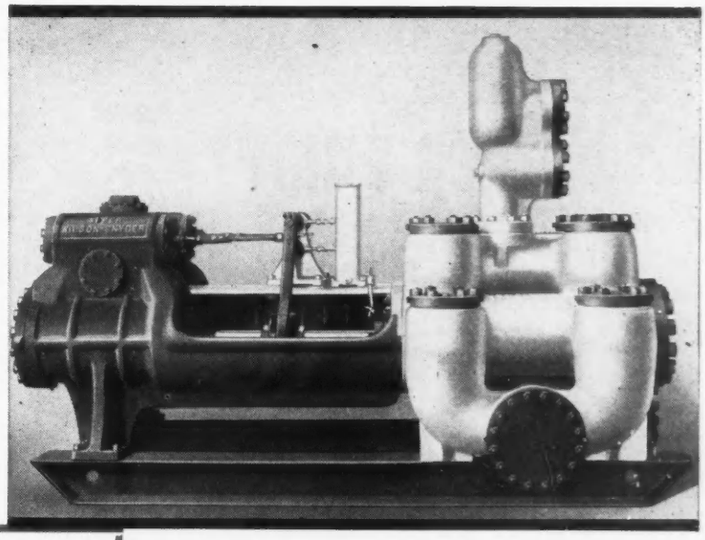

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No. 12—5x12	
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No. 7—7¼x18	

Undrilled. **Principal Leaseholders:** Magnolia, Sun Oil Co., Gulf Oil Corp., Continental.

LAFAYETTE*

North of Lafayette, Section 13-9s-4e. **Means of Discovery:** Torsion balance, Stanolind Oil & Gas Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind, Milner, Sun Oil Co., Gulf Oil Corp.

LA FOURCHE PARISH

CHACAHOULA†

Section 63, 64, 70, 71, 72-15s-15e. **Means of Discovery:** Gas seeps; seismograph, Gulf Refining Co., 1926. **Structure:** Salt dome; top cap rock 1035 ft, top salt 1302 ft. **Extent of Development:** 40 tests, mostly to cap rock investigating sulphur possibilities; showings of sulphur, no oil production. **Deepest Hole:** Gulf's Stark 25, 5000 ft, 1930. **Principal Leaseholders:** Gulf Oil Corp. (sulphur rights sub-let to Texas Gulf Sulphur Co.), States Production Co., Union Sulphur Co. **Remarks:** Was called Thibodeaux. Humble Oil & Refining Co. has geophysical block of 25,000 acres in Twp. 16s-16e, south of this prospect and in Terrebonne Parish. Barnsdall Oil Company leased in Section 16-15s-16e, after checking with geophysics.

FIELD LAKE*

North of Long Lake, Section 48-17s-18e. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1934. **Principal Leaseholder:** Shell. **Remarks:** Gulf Oil Corporation has a large block on north edge of Field Lake, centering Section 24-16s-18e, taken after working pendulum.

LAKE BOEUF*

West of Lake Boeuf, Sections 53-15s-18e; 17, 18-15s-19e. **Means of Discovery:** Reflection seismograph, torsion balance, 1934. **Extent of Development:** Gay, Trustee's Godchaux 1, Section 34, quit at 6226 ft, 1935. Emerald Petroleum Co.'s Bowie 1, 53-15s-18e, abnd 8456 ft, 1935. **Principal Leaseholders:** Emerald, Bowie Lumber Co. **Remarks:** Formerly known as Bowie.

LAKE BULLY CAMP*

Sections 61, 62, 63, 64-18s-21e; 32, 33-19s-21e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1928. **Remarks:** Same as Golden Meadows.

*Prospect. †Salt dome, no production. ‡Gas field.

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LEEVILLE

Sections 26, 27-21s-22e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1928. **Discovery Well:** The Texas Co.'s La. Land & Explo. Co. 2, Section 26, 30 bbls 20 gravity oil per hour, ½-inch choke 3028 ft., February 21, 1931. Deepened, 1750 bbls 29 gravity oil daily, ½-inch choke, 3598-3628 ft, April, 1931. **Structure:** Salt dome, top salt 4080 ft. **Producing Formations:** Miocene sands 3040-46 ft and 3262-4602 ft. **Productive Area:** About 325 acres. **Extent of Development:** Through 1935, 100 tests, 86 oil, 14 dry. **Deepest Hole:** Gulf Refining Co.'s J. N. Leforte 1, Section 23, dry 7300 ft, February, 1934. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through 1935:** 9,685,784 bbls. **Indicated Remaining Reserves:** 15,314,216 bbls. **Daily Production in January, 1936:** 68 wells, 11,855 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 30. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** Robert Bowles Oil Co., P. O. Dowlen, Emerald Petroleum Corp., Gulf Oil Corp., Frank L. Hill, Lincoln Oil Co., Pop Oil Co., Prince Oil Co., Rex Drilling Co., Shell Petroleum Corp., Southern Sulphur Co., T. & L. Drilling Co., The Texas Co. **Remarks:** Sometimes called Bayou La Fourche.

MARCHLAND*

Off shore, centering one mile due s of se corner Twp. 23s-22e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1928. **Extent of Development:** Gulf's City of New Orleans 1, 19-23s-23e, dry 6388 ft. **Remarks:** Above test not considered condemning, as it was about three mi n of where a dome is regarded as lying.

POINTE AU FER*

Section 12-21s-12e. **Means of Discovery:** Torsion balance, Freeport Sulphur Co., 1930, and checked later with seismograph. **Extent of Development:** Freeport's Nelson 1 quit at 6023 ft, 1930; no important showings.

VALENTINE†

Section 6-17s-20e. **Means of Discovery:** Surface indications induced drilling shallow wells which gave encouraging data; seismograph, Barnsdall Oil Co., 1932. **Structure:** Salt dome; solid salt 6580 ft, broken salt 6573 ft. **Extent of Development:** Three deep tests in addition to early shallow tests: Barnsdall's Harang Plantation 1, show oil 6430-49 ft, oil and gas show 6614-24 ft, abnd 7195 ft, 1934; Harang 3 had Vicksburg 6349 ft, quit at 6586 ft, in salt, 1935. Harang 2, dry 7216 ft in shale, 1934. **Principal Leaseholders:** Barnsdall Oil Co., Gulf Oil Corp., Pan American Petroleum Co. **Remarks:** Also known as LaRose.

PLAQUEMINES PARISH

GARDEN ISLAND BAY

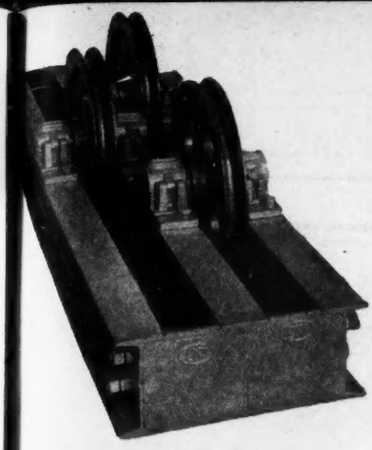
At the mouth of the Mississippi river, centering section 37-23s-33e. **Means of Discovery:** Refraction seismograph, McCollum Exploration Co., 1928. **Discovery Well:** The Texas Co.'s Garden Island Bay 16, 525 bbls, 37.2 gravity oil, ¼-in choke, 4930 ft, September 11, 1935. **Structure:** Piercement type salt dome, top cap rock 1691 ft, salt 2017 ft. **Producing Formations:** Miocene sands 4552-4590 ft, 4615-4644 ft, and from 4913 to 4930 ft, gas sand, 1672 ft. **Productive Area:** About 100 acres. **Extent of Development:** Through 1935, 15 tests, 1 oil, 1 gas, 1 crater, 12 failures. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through 1935:** 105,618 bbls. **Indicated Remaining Reserve:** 2,894,382 bbls. **Daily Production in January, 1936:** One well, 200 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 37.2-39. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** The Texas Co. **Remarks:** Several gas wells around 900 and 1400 ft. Garden Island Bay is the furthest south and east field. Difficult drilling on the delta.

LAKE HERMITAGE

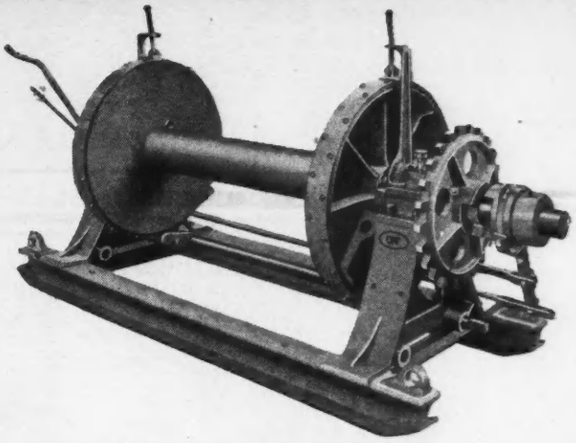
Sections 1, 12-18s-25e. **Means of Discovery:** Seismograph, Gulf and Humble, 1928. **Discovery Well:** Gulf Refining Co.'s La Fourche Levee Basin District 1, Section 12-18s-25e, flowing three bbls 24 gravity oil daily from sand at 4515 ft, after drilling salt to 4604 ft and plugging back, May, 1934. **Structure:** Salt dome, top salt 3811 ft. **Producing Formations:** Miocene sands 3172-3194 ft, 4515 ft. **Productive Area:** About 50 acres. **Extent of Development:** Through 1935, 14 tests, 2 oil, 12 dry, mostly for sulphur. **Deepest Hole:** Humble's La Fourche Levee 2, 6472 ft, December, 1934. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** 71,506 bbls. **Indicated Remaining Reserves:** 928,494 bbls. **Daily Production in January, 1936:** One well, 200 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 24. **Rigs Running January 1, 1936:** One. **Principal Leaseholders:** Gulf Oil Corp. and Humble Oil & Refining Co. jointly, with sulphur rights subleased to Texas Gulf Sulphur Co.

LAKE WASHINGTON

Sections 1, 2, 11, 12, 13, 14-20s-26e. **Means of Discovery:** Seismograph, Gulf Refining Co., Shell Petroleum Corp., Humble Oil & Refining Co., independently, 1928. **Discovery Well:** Humble's Cockrell-Moran 4, 240 bbls, 1/8-in choke, from cap rock 1154-1159 ft, June 16, 1931. **Structure:** Salt dome, top cap rock 1094 ft, salt 1574 ft; very large dome. **Producing Formations:** Oil from cap rock at 1130 to 1495 ft. One well made pipe line oil from 4324 to 4337 ft, but was abnd. **Productive Area:** For oil, about 150 acres. **Extent of Development:** Through 1935, 22 tests for oil, 9 producers, 13 dry. Over two dozen tests for sulphur. **Deepest Hole:** Humble's Cockrell-Moran 2, abnd in salt 5861 ft, March, 1931. **Estimated Ultimated Recovery:** 5,000,000 bbls. **Production Through 1935:** 1,203,400 bbls. **Indicated Remaining Reserve:** 3,796,600 bbls. **Daily Production in January, 1936:** 12 wells, 1500 bbls. **Oil Outlet:** Barge. **Range of Gravity** 24.4. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Humble,



PUMPING CROWN BLOCKS



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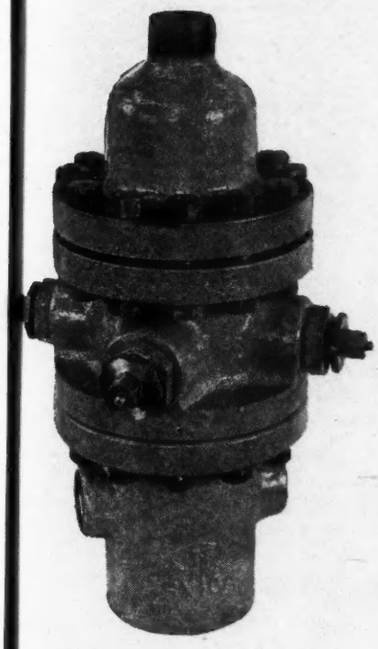

HX-10 TUBING HEAD for Running Tubing, Setting Packer, etc., 5000-lbs. Test Pressure

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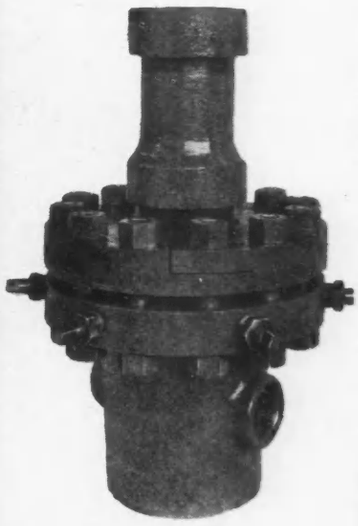
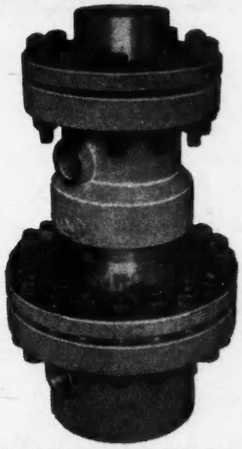


HX-30 TUBING HEAD for Running Tubing, Setting Packer, etc., 3000-lbs. Test Pressure



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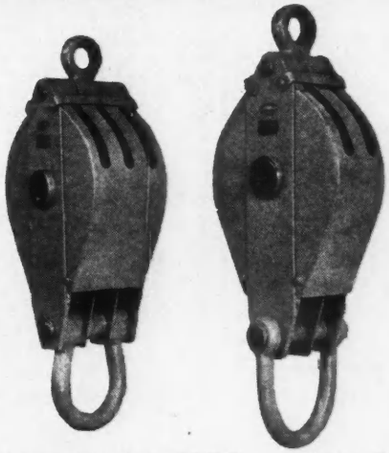

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Gulf Oil Corp. and Shell jointly, with sulphur rights subleased to Freeport Sulphur Co. **Remarks:** Was called Lake Grande Ecaille. Freeport has modern sulphur mining plant.

POTASH*

Southeast corner Twp. 18s-27e. **Means of Discovery:** Seismograph, Gulf Refining Co., Humble Oil & Refining Co., 1928. **Extent of Development:** Undrilled.

QUARANTINE*

Center of east edge of Twp. 21s-32e. **Means of Discovery:** Seismograph, Gulf Refining Co., Humble Oil & Refining Co., 1928. **Extent of Development:** Undrilled. **Remarks:** Indefinite prospect.

VENICE†

Sections 21, 22, 23, 26, 27, 28, 34-21s-30e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1928. **Structure:** Salt dome; top cap rock 2216 ft. **Extent of Development:** Gulf's Buras Levee Board 1 blew out from 250 ft and cratered; No. 2 blew out at 800 ft and quit at 2460 ft. E. A. Howe's Buras Levee 1, e side of dome, odor oil 1534-35 ft, 1579-1634 ft and 1881-85 ft, quit at 2119 ft, April, 1935. **Rigs Running:** Southern Sulphur Co.'s Manhattan Fruit Co. 1 dr shale 3510 ft, March, 1936. **Principal Leaseholder:** Gulf Oil Corp. **Remarks:** Was called Rose, Spanish Pass.

ST. BERNARD PARISH

LAKE LERY*

Section 28-14s-14e. **Means of Discovery:** Seismograph, 1928. **Extent of Development:** Southern Sulphur Corp.'s State 1 quit at 2138 ft, April, 1934. **Principal Leaseholder:** The Texas Co. (110,000 acres Delacroix Land & Fur Co. land in Plaquemines and St. Bernard.) **Remarks:** Also called Delacroix Island.

OLEVIER*

Sections 127, 135-14s-14e. **Means of Discovery:** Geophysics, 1928 Petty Geophysical Engineering Corp., McCollum Exploration Co., Gulf Refining Co. **Extent of Development:** Thompson et al's Delacroix 1, Section 127, quit at 6225 ft, 1933. Joe Danciger's Battles 1, dry 7055 ft, May, 1935. **Rigs Running:** F. F. Kramer's Robinson 1 (gas show reported 100 ft). well sd.

SHELL BEACH*

Section 33-13s-15e. **Means of Discovery:** Seismograph, 1928. **Extent of Development:** Southern Sulphur Co.'s State Lake Borgne 1, dry 1370 ft, 1934. Emerald Petroleum Corp.'s Shell Beach Properties 1, 31-13s-15e, sand showing oil 7246 ft, trouble with hole, pb, set 7-in csg, sd 6346 ft, March, 1936. **Rigs Running:** One.

*Prospect. †Salt dome, no production. ‡Gas field.

Kirby Petroleum Company

ST. CHARLES PARISH

LAKE NETHERLANDS*

Sections 33, 34-14s-22e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1928. **Extent of Development:** Undrilled.

LAKE SALVADOR*

Sections 12, 13, 14, 24-15s-21e; 7, 18, 19-15s-22e. **Means of Discovery:** Seismograph, Gulf Refining Co., Humble Oil & Refining Co. and others, 1928. **Extent of Development:** Undrilled. **Principal Leaseholder:** Delta Securities Co.

ST. ROSE

Southeast corner Twp. 12s-9e. **Means of Discovery:** Report that Shell Petroleum Corp. had located dome here with seismograph not verified. **Extent of Development:** Undrilled.

ST. JAMES PARISH

CONVENT*

Centering Section 5-12s-5e. **Means of Discovery:** Torsion balance, reflection seismograph, Shell Petroleum Corp., 1935. **Structure:** Considered definitely a dome. **Extent of Development:** Shell's Colonial Sugar, 5-12s-5e, oil odor 2747 ft, top sand 2708, well made gas mud with salty taste. Faint odor oil 3569-73, 3619-24 ft, took drill stem test 4527-34 ft, showed salt water, dr in shale 4637 ft, March, 1936. **Rigs Running:** One. **Principal Leaseholder:** Shell.

DONALDSONVILLE*

Centering Section 25-11s-15e, near common corner Ascension, Assumption and St. James Parishes. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Petroleum Corp., 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Shell (8000 acres including 1300 in fee).

ST. JOHN THE BAPTIST PARISH

WEST PONCHARTRAIN*

Centering w edge Lake Pontchartrain, Twp. 10s-7e. **Means of Discovery:** Torsion balance, reflection seismograph, Shell Petroleum Corp., The Texas Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, The Texas Co.

ST. LANDRY PARISH

BRISTOL*

Centering Section 47-8s-4e, 1½ mi ne Boscoe. **Means of Discovery:** Geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** Sun Oil Co., Shell Petroleum Corp., Gulf Oil Corp., Louisiana Land & Exploration Co., Superior Oil Producing Co., Adams Louisiana Co.

EUNICE*

Section 14-6s-1e. **Means of Discovery:** Geophysics, Elbof Explorations, Inc., 1928. **Extent of Development:** Elbof's Smith 1, dry 4315 ft; LeDoux 1, dry 4362 ft. **Remarks:** Gulf Oil Corp. has a block for geophysical work southwest of this prospect.

GARLAND*

Sections 48-4s-4e; 6-4s-5e. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., Pure Oil Co., 1929. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Shell Petroleum Corp., Adams Louisiana Corp.

PORT BARRE

Sections 4, 20, 21-6s-5e. **Means of Discovery:** Seismograph, Gulf Refining Co., 1926. **Discovery Well:** The Texas Co.'s Botney Bay Fee 1, 800 bbls, 3765 ft, February 23, 1929. **Structure:** Salt dome, top cap rock 3551 ft, salt 3831 ft. **Producing Formations:** Oligocene sands at 3100 to 3850 ft. Flank production 4867 to 4883 ft. **Productive Area:** About 225 acres. **Extent of Development:** Through 1935, 59 tests, 42 oil, 1 gas, 16 dry. **Deepest Hole:** Pan American Production Co.'s Haas Hirsch 1, w flank of field discovered flank production from 4867 to 4883 ft, Dec. 5, 1935. **Estimated Ultimate Recovery:** 9,500,000 bbls. **Production Through 1935:** 5,313,789 bbls. **Indicated Remaining Reserves:** 4,186,211 bbls. **Daily Production in January, 1936:** 26 wells, 3121 bbls. **Oil Outlet:** The Texas Pipe Line Co., 6-in. **Range of Gravity:** 21-29, 35-36. **Rigs Running January 1, 1936:** Three. **Principal Leaseholders:** The Texas Co., Gulf Oil Corp., Pan American Production Co.

SUNSET*

Section 44-7s-5e. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Petroleum Corp., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** Shell.

WASHINGTON*

Sections 17, 38-5s-5e; 68-5s-4e. **Means of Discovery:** Reflection seismograph, Pure Oil Co., 1929. **Extent of Development:** C. B. Bunte's Thislewaite 1, 68-5s-4e, dry 7001 ft, May, 1935. **Principal Leaseholders:** C. B. Bunte, Woodley Petroleum Co., Gulf Oil Corp., Magnolia Petroleum Co., Humble Oil & Refining Co., Shell Petroleum Corp.; The Texas Co.

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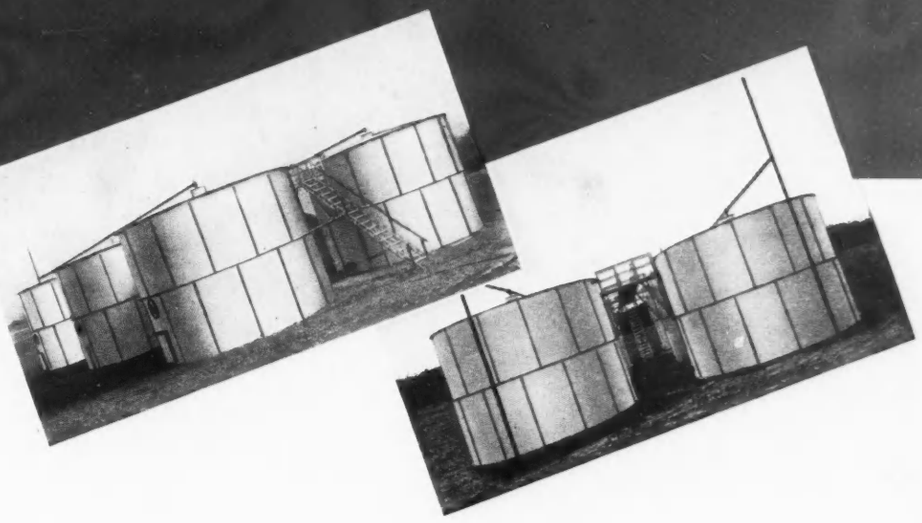

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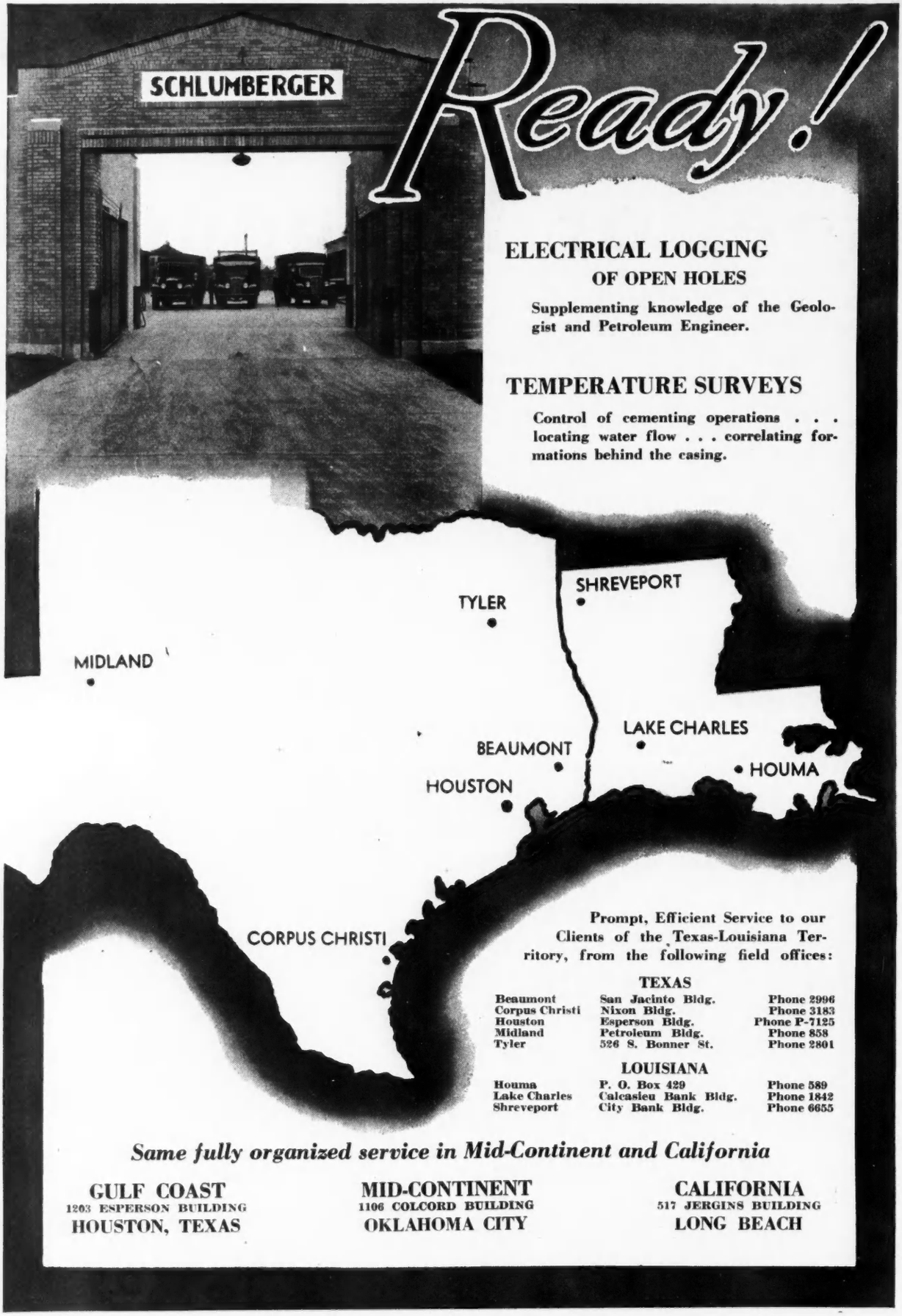
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ST. MARTIN PARISH

ANSE LA BUTTE

Center Twp. 9s-5e. **Means of Discovery:** Elevation, gas seeps, paraffine beds. **Discovery Well:** Heywood Brothers' Fee 1, 1350 ft, 1902. **Structure:** Salt dome, salt 240 ft, cap missing. **Producing Formations:** Cap rock and Pliocene sands at 900 to 2500 ft. **Productive Area:** About 45 acres. **Extent of Development:** Through 1935, 108 tests, 31 oil, 77 dry. **Deepest Hole:** Yount-Lee Oil Co.'s Hebert 2, quit at 6219 ft, August, 1930. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** 810,096 bbls. **Indicated Remaining Reserves:** 189,904 bbls. **Daily Production in January, 1936:** Five wells, 42 bbls. **Oil Outlet:** Tank cars. **Range of Gravity:** 23. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Stanolind Oil & Gas Co.

BAYOU BOUILLON

Sections 13, 24-9s-8e; 18, 19-9s-9e. **Means of Discovery:** Gas seeps. **Discovery Well:** O. W. Heywood et al's No. 2, 1902, bailed some Oil, 1089 ft. First commercial oil well, Rycade Oil Corp.'s Bayou Bouillon B-2, 400 bbls, 25 gravity oil daily, 3232 ft, July 14, 1928. **Structure:** Salt dome, top cap rock 1504 ft, salt 1609 ft. **Producing Formations:** Miocene sands at 3000 to 3400 ft and 4260 to 4341 ft. **Productive Area:** About 35 acres. **Extent of Development:** Through 1935, 47 tests, 9 oil, 38 dry. **Deepest Hole:** Humble Oil & Refining Co.'s Woodward 1, abnd 6471 ft, January, 1931. **Production Through 1935:** 472,752 bbls. **Daily Production in January, 1936:** None. **Oil Outlet:** Barge. **Range of Gravity:** 25. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** Rycade Oil Corp. owns a majority of the field in fee. **Remarks:** The field has been shut in pending higher crude prices.

GECHO*

Section 105-8s-5e and nw Twp. 9s-5e. **Means of Discovery:** Surface indications, reflection seismograph, Calcasieu Oil Co., 1926; geophysics, Gulf Refining Co. **Extent of Development:** H. J. Weir's DeClouet 1, 108-8s-5e, quit at 2322 ft, December, 1924. E. R. Brann's Bank of Lafayette 1, dry 5002 ft, 1933. **Principal Leaseholder:** Gulf Oil Corp.

HENDERSON*

Sections 9, 17-8s-7e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1934. **Extent of Development:** The Texas Co.'s St. Martin Land 6, 17-8s-7e, oil show 8850-60 ft, dry 9771 ft, St. Martin Land 7, 17-8s-7e, slight show oil 4400-04 ft, dry 8986 ft; State Plum Bob 1, quit in water sand, 8205 ft, all in 1935; St. Martin Land 8 had showing oil 4753-60 ft; 4900-4904 ft; 5972-75 ft; 6150-61 ft; 6195-99 ft; dr sandy shale showing oil at 6302, top show 6298 ft March, 1936. **Principal Leaseholder:** The Texas Co.

LAKE MONGOULOI†

In bed of Lake Mongouloui, Sections 10, 43-9s-9e; also Twp. 10s-9e. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927; geophysics, The Texas Co., 1934. **Structure:** Salt dome, top salt 7540 ft. **Extent of Development:** The Texas Co.'s State 1, 10-9s-9e, had show oil 7281-89 ft, topped water sand 7289 ft, quit at 7548 ft after drilling into salt, January, 1936. **Principal Leaseholder:** The Texas Co.

NORTHEAST ST. MARTINVILLE*

East side Twp. 10s-6e, west side Twp. 10s-7e, 3 mi ne St. Martinsville. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Magnolia (3200 acres).

ST. MARTINVILLE

Section 57-11s-6e, south of St. Martinsville. **Means of Discovery:** Torsion balance, seismograph reflection and surface geology, Tide Water Oil Company, 1934, 1935. **Discovery Well:** Tide Water's Smede 1, 8.4 bbls per hour, 5582 ft, November 4, 1935. **Structure:** Regarded as a deep seated salt dome. **Producing Formations:** Miocene sands, 5545-5582 ft. **Productive Area:** About 100 acres. **Extent of Development:** Discovery well. **Deepest Hole:** Tide Water's Smede 2, was dr at 8279 ft, February, 1936. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through 1935:** 33,734 bbls. **Indicated Remaining Reserves:** 1,966,264 bbls. **Daily Production in January, 1936:** One well, 1055 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 32. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** Tide Water. **Remarks:** Tide Water's first wildcat and first oil field in Louisiana Gulf Coast, Harrison & Abercrombie's Barros 1-A, quit at 6696 ft, March, 1930, had five sands with oil shows. E. B. Hopkin's Standard of Kansas 1, 83-10s-6e, was dry at 7963 ft, April, 1934.

SECTION 28†

Sections 28, 29, 32, 33-9s-7e. **Means of Discovery:** Gas, paraffin dirt. Simms-Hager et al's No. 1 found rock salt at 1250 ft, 1917. **Structure:** Salt dome; top cap rock 1030 ft, top salt 1250 ft. **Extent of Development:** Total 12 tests, all dry. **Deepest Hole:** The Texas Co.'s Iberville 1, 6761 ft, 1930. **Principal Leaseholders:** The Texas Co., Ohio Oil Co. **Remarks:** Also known as Hager Dome.

SPANISH LAKE*

Southwest Twp. 11s-6e. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co. **Extent of Development:** Undrilled.

*Prospect. †Salt dome, no production. ‡Gas field.

ST. MARY PARISH

BELLE ISLE†

Sections 1, 2-18s-10e; 25, 25, 36-17s-10e. **Means of Discovery:** Elevation above marsh.. Capt. A. F. Lucas found rock salt in first test at 373 ft, December, 1896. Oil shows but no production. **Structure:** Salt dome, top cap rock 145 ft, top salt 150 ft. **Extent of Development:** Total 32 tests for sulphur, salt and oil. **Deepest Hole:** Freeport Sulphur Co.'s Belle Isle 1, quit in salt, 1853 ft, August 1929. **Remarks:** Salt mining efforts unsuccessful. Sun Oil Co. has lease on 4700 acres around dome.

COTE BLANCHE†

Sections 5, 6, 11, 12, 13, 14-15s-7e. **Means of Discovery:** Elevation above marsh. Rock salt discovery by Southern Salt Synd., 1921. No oil. **Structure:** Salt dome; no cap rock, top salt 298 ft. **Extent of Development:** 64 tests, mostly for salt, all devoid of oil. **Deepest Hole:** Geo. Leland Co.'s Cafferey 1, 1675 ft.

CHARENTON*

Northwest Twp. 14s-10e and southeast 13s-9e. **Means of Discovery:** Gas seeps, sulphur water, paraffin beds. Seismograph, torsion balance, The Texas Co. and others. **Extent of Development:** Edwards Drilling Co., Black et al's Chetemaches 1, 34-13s-9e, shows of oil 7710-38 and 8129-40 ft, abnd 8501 ft, May, 1935. The Texas Co.'s South Coast 1, 41-14s-10e, abnd 7851 ft, 1930. Earlier tests included J. McCurrey et al's Le Blue 1, dry 3100 ft, 1929. **Remarks:** See Jeanerette field.

GLENWILD*

Sections 20, 21-15s-12e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1929. **Structure:** More probably structure than salt dome. **Extent of Development:** Through 1933, half-dozen tests, all dry, including old shallow holes. **Deepest Hole:** Louisiana Explo's Clarke 2, 5690 ft, 1930. **Principal Leaseholder:** Shell Petroleum Corp.

JEANERETTE

Centering Section 40-13s-9e. **Means of Discovery:** Geophysics, Herton Oil Co., 1935. **Discovery Well:** Herton Oil Co.'s Roane 1, 7512 ft, pb 14 ft to 7492 ft, 25 bbls per hour, quarter-inch choke, December 23, 1935. **Structure:** Deep seated salt dome. **Producing Formations:** Miocene sands 6653-65 ft and 7492 to 7512 ft. **Productive Area:** About 100 acres. **Extent of Development:** Discovery well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** Estimated 5760 bbls. **Indicated Remaining Reserves:** 994,240 bbls. **Daily Production in January, 1936:** One well, 720 bbls. **Oil Outlet:** Barge. **Range of Gravity** 36.7-40.7. **Rigs Running in February, 1936:** Two. **Principal Leaseholder:** Herton Oil Co.

MORGAN CITY*

Section 35-16s-12e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1929. **Structure:** Probably not salt dome. **Extent of Development:** Several early tests, all dry. One deep, Louisiana Explo's Fox 1, dry 6055 ft, 1930. **Remarks:** The Texas Company has lease on several thousand acres south of Morgan City in 16s-12e.

PATTERSON*

Section 21-15s-11e. **Means of Discovery:** Torsion balance, Vacuum Oil Co., Empire Gas & Fuel Co., 1929; checked later with seismograph. **Extent of Development:** Empire and Vacuum's Zenor 1, dry 6365 ft, 1930.

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WAX LAKE*

Section 11-17s-9e. **Means of Discovery:** Seismograph, Pure Oil Co., 1929. **Extent of Development:** Pure Oil Co.'s State Wax Lake 2, dry 5902 ft, 1930. (No. 1 not drilled). **Principal Leaseholder:** The Texas Company. **Remarks:** Not considered promising following no showing in test.

ST. TAMMANY PARISH

COVINGTON*

Sections 9, 10, 20, 21-7s-10e, north of Lake Pontchartrain. **Means of Discovery:** Pendulum, Gulf Refining Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf Oil Corp. (15,000 acres). **Remarks:** Also known as North Lake Pontchartrain or Mandeville.

NORTH SLIDELL*

Sections 26, 36-8s-14e, ne Slidell. **Means of Discovery:** Seismograph. **Extent of Development:** Danciger Oil & Refining Co.'s Holdsworth 1, 26-9s-14w, show dead oil 3995-4003 ft, slight cut 2397-2424 ft, abnd 6053 ft, February, 1936. **Principal Leaseholders:** Danciger, Gulf Oil Corp., Sun Oil Co., United Gas Co.

SLIDELL*

Section 24-9s-15e, se Slidell on Louisiana-Mississippi line. **Means of Discovery:** Torsion balance, reflection seismograph, Gulf Refining Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf Oil Corp.

TERREBONNE PARISH

BAYOU TERREBONNE*

Sections 4, 5-17s-14e; 66, 67, 68, 69-16s-14e, se Morgan City. **Means of Discovery:** Reflection seismograph, Shell Petroleum Corp., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Humble Oil & Refining Co. **Remarks:** Humble has 100,000 acres for geophysical work in this area. Sometimes known as Amelia.

*Prospect. †Salt dome, no production. ‡Gas field.

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BAY ST. ELAINE

Sections 8, 17-22s-18e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** First gas, The Texas Co.'s Bay St. Elaine (Bay Coon Road) 1, 15 million ft gas at 680 ft, May, 1929. First oil, The Texas Co.'s Bay St. Elaine 7, 30 bbls daily, 2721 ft, March, 1934. **Structure:** Salt dome, cap rock 710 ft, salt 1463 ft. **Producing Formations:** Gas from Pliocene sands, 680 and 791 ft, oil from Pliocene-Miocene sand, 2721 ft. **Productive Area:** Only one well completed for oil. **Extent of Development:** Through 1935, total 13 tests, 1 oil, 2 gas, 10 dry. Several tests for sulphur. **Deepest Hole:** The Texas Co.'s Bay St. Elaine 9, 5-22s-18e, quit at 6420 ft, April, 1935, after pb from 7126 ft. Streaks of sands showing oil was found from 6368 to 6373 ft. **Daily Production in January, 1936:** None. **Oil Outlet:** Barge. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** The Texas Co., with sulphur rights subleased to Freeport Sulphur Co. **Remarks:** Known formerly as Bay Coon Road.

CAILLOU ISLAND

Sections 17, 18, 19, 20-23s-20e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** The Texas Co.'s Caillou Island 2, Section 18, 1100 bbls 28 gravity oil daily, 3239 ft, January 24, 1930. **Structure:** Salt dome, cap rock 2741 ft, salt 4092 ft. **Producing Formations:** Miocene sands at 3239 to 4981 ft, 5981 ft and 6094 ft. **Productive Area:** About 225 acres. **Extent of Development:** Through 1935, 26 tests, 14 oil, 21 dry. **Deepest Hole:** The Texas Co.'s State Caillou Island 10, oil well at 6094 ft, May, 1934. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through 1935:** 4,641,981 bbls. **Indicated Remaining Reserves:** 10,358,019 bbls. **Daily Production in January, 1936:** 11 wells, 9502 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 33-37. **Rigs Running January 1, 1936:** Two. **Principal Leaseholder:** The Texas Co. **Remarks:** Was called Timbalier Bay.

DOG LAKE

Sections 5, 6-22s-16e; 31-21s-16e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** The Texas Co.'s Dog Lake Bayou A-1, 15 bbls, 1062 ft, May, 1929. **Structure:** Salt dome, top cap rock 1506 ft, salt 1730 ft. Reported 2 miles in diameter. **Producing Formations:** Pliocene sand at 1062 ft, Miocene sands 7104 to 7128 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 16 tests, 2 oil, 14 dry. **Deepest Hole:** The Texas Co.'s State Dog Lake 18, Section 5-22s-16e, oil well at 7128 ft, December, 1935. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through 1935:** 7450 bbls. **Indicated Remaining Reserves:** 4,992,550 bbls. **Daily Production in January, 1936:** One well, 1130 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 38.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** The Texas Co.

EAST BAY JUNOP†

Sections 21, 22, 27, 28-21s-14e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927. **Structure:** Salt dome; cap rock 5077 ft, salt found in only one test, 7000 ft. **Extent of Development:** Eight tests, all dry. **Deepest Hole:** The Texas Co.'s State Bay Junop B-6, 34-21s-14e, quit at 7840 ft in salt, June, 1935. **Principal Leaseholder:** The Texas Co. **Remarks:** Also known as Bay Junop, Taylor Bayou.

FOUR ISLE

Section 23-21s-16e. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** The Texas Co.'s Four Isle 4, 2230 bbls daily, 5639 ft, November 21, 1934. **Structure:** Piercement type dome, top cap rock 557 ft, salt 1381 ft. **Producing Formations:** Miocene sands at 5611-5639 ft. **Productive Area:** About 100 acres. **Extent of Development:** Through 1935, 10 tests, 2 oil, 8 dry. **Deepest Hole:** The Texas Co.'s L. L. E. Four Isle 6, 6933 ft, 1930. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through 1935:** 239,759 bbls. **Indicated Remaining Reserves:** 2,760,241 bbls. **Daily Production in January, 1936:** One well, 50 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 44.5. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** The Texas Co.

HOUMA GAS FIELD‡

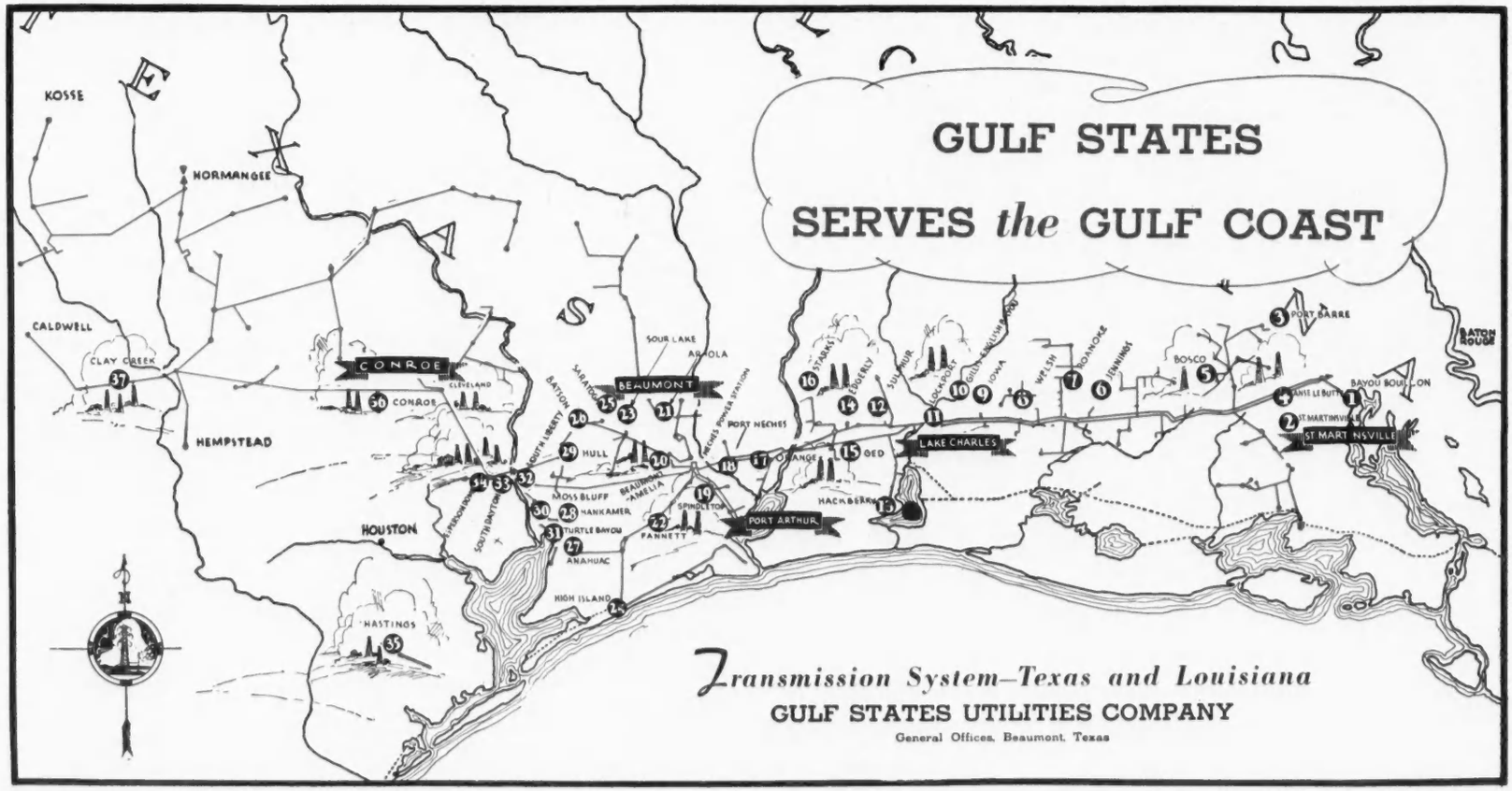
Sections 5, 6, 7-19s-19e. **Means of Discovery:** Gas seeps and other surface indications. **Structure:** No salt dome material encountered, but possibly a deep-seated salt dome present. **Producing Formations:** Gas from sands of Pliocene age at 2300 to 3000 ft. **Productive Area:** None as regards oil; few acres as regards gas. **Extent of Development:** Limited. **Deepest Hole:** Southern Gas Co.'s Peoples Sugar Co. 1, (?), dry at 2287 ft. **Production Through 1935:** No oil, only gas. **Rigs Running January 1, 1936:** None. **Principal Leaseholders:** Chas. Paggi, Southern Gas Co. **Remarks:** Humble Oil & Refining Co. leased Adams Royalty Co.'s acreage on the eastern edge of the field.

HOUMA TOWNSITE*

Section 102, 103-17s-17e. **Means of Discovery:** Geophysics, 1930; reflection seismograph, Barnsdall Oil Co., Shell Petroleum Corp., 1934-35. **Extent of Development:** Louisiana Gas & Fuel Co.'s Minor 1, had gas show 1500 ft, quit at 6500 ft, 1931. Shell's Realty Co. 1 dr 10,076 ft, March, 1936. Fifth well on Louisiana Gulf Coast to dr to 10,000 ft. **Principal Leaseholders:** Shell, Barnsdall, Gulf Oil Corp., The Texas Co.

LAKE BARRE

Sections 36, 37, 38, 39, 40-21s-19e; 30-21s-20e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** The Texas Co.'s Lake Barre A-2, 70 bbls hourly, 3849 ft, Sept., 1929. **Structure:** Salt dome, top cap rock 750 ft, salt 852 ft. **Producing Formations:** Miocene-Pliocene sands at 3645 to 3980 ft. **Productive Area:** About 425 acres. **Extent of Development:** Through 1935, 48 tests, 34 oil, 14 dry. **Deepest Hole:** The Texas Co.'s State Lake Barre 22, dry 7162 ft, March,



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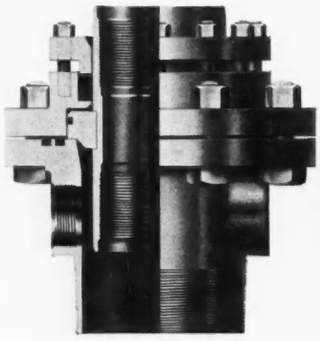
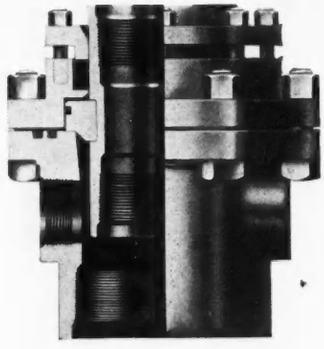
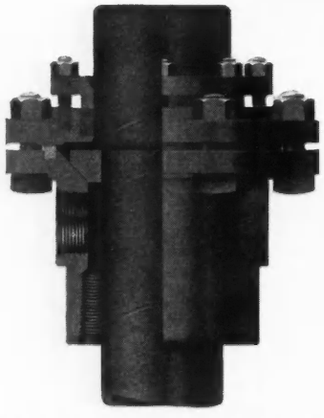


HIGH PRESSURE TYPE, HAMMER FORGED STEEL, 6000-LB. TEST



TYPE "M" ALLOY CAST STEEL, 3000-LB. TEST



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1934. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through 1935:** 12,052,018 bbls. **Indicated Remaining Reserves:** 7,947,982 bbls. **Daily Production in January, 1936:** 22 wells, 9252 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 26-36. **Rigs Running January 1, 1936:** None. **Principal Leaseholder:** The Texas Co.

LAKE DECADE*

Section 24-18s-14e, n of Lake DeCade. **Means of Discovery:** Reflection seismograph, The Texas Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** The Texas Co.

LAKE PELTO

Sections 12-17s-18e; 8, 9-23s-18e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** The Texas Co.'s Lake Pelto B-1, 400 bbls., 1391 ft, July, 1929. **Structure:** Salt dome, top cap rock 2801 ft, top salt 2859 ft. **Producing Formations:** Pliocene sands 1250 to 1288 ft, 1350 ft, and 1733 to 1765 ft; Miocene sand 6248 to 6275 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 10 tests, 4 oil, 6 dry. **Deepest Hole:** The Texas Co.'s State Lake Pelto 12, oil well, 6275 ft, after pb from 7039 ft, June, 1935. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through 1935:** 278,378 bbls. **Indicated Remaining Reserves:** 721,622 bbls. **Daily Production in January, 1936:** One well, 110 bbls. **Oil Outlet:** Barge. **Range of Gravity:** 17.1. **Rigs Running January 1, 1936:** One. **Principal Leaseholder:** The Texas Co. **Remarks:** State Lake Pelto 12, opened a new sand for this field in 1935 and had sands showing oil at 6248 ft, 6422, 6661, 6717 ft.

MINOR*

Section 3-18s-16e. **Means of Discovery:** Seismograph, United Gas Public Service Corp., 1931. **Structure:** Appeared structure-type like nearby Houma gas field rather than salt dome. **Extent of Development:** United's Minor Estate 2, had gas show 3875 ft, quit 6002 ft, 1932. **Remarks:** See Houma Townsite.

VERMILION PARISH

ABBEVILLE*

Township 12s-3e. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Atlantic Oil Producing Co., 1929; reflection seismograph, Stanolind Oil & Gas Co., 1935. **Extent of Development:** North of this prospect, Hamil & Smith's Faulk 1 quit at 5015 ft, 1934. Atlantic Oil Producing Co.'s Bowdin 1 quit at 5017 ft, 1929. **Principal Leaseholders:** Stanolind, Continental Oil Co., Gulf Oil Corp., Humble.

ANDREWS*

Sections 14, 15, 22, 23-11s-2e. **Means of Discovery:** Reflection seismograph, Gulf Refining Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholder:** Perry Scranton.

GUEYDAN

Sections 27, 34-11s-1w. **Means of Discovery:** Seismograph, Pure Oil Co., 1929. **Discovery Well:** Pure's Alliance 2, 200 bbls, 3552 ft, April, 1932. Later deepened, 800 bbls, 4009-4029 ft. **Structure:** Salt dome, top anhydrite 4772 ft, salt 5800 ft. **Producing Formations:** Miocene sands at 3532 to 3565 ft and at 3988 to 4299 ft. **Productive Area:** About 75 acres. **Extent of Development:** Through 1935, 13 tests, 5 oil, 8 dry. **Deepest Hole:** Pure's Alliance 6, dr to 9543 ft, pb 5200 ft, dr 6301 ft pb 5722 ft, abnd, February, 1936. **Estimated Ultimate Recovery:** 1,500,000 bbls. **Production Through 1935:** 570,071 bbls. **Indicated Remaining Reserves:** 929,929 bbls. **Daily Production in January, 1936:** Four wells, 200 bbls. **Oil Outlet:** Pure Pipe Line Co.'s 8-in to Inter-Coastal Canal, barge. **Range of Gravity:** 27.7. **Rigs Running January 1, 1936:** One. **Principal Leaseholders.** Pure Oil Co. Limited acreage which may prove productive held by Humble Oil & Refining Co., Gulf Oil Corp., Shell Petroleum Corp., Magnolia Petroleum Co.

SOUTH ABBEVILLE*

Sections 65, 85-14s-3e. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Stanolind.

WEST GUEYDAN*

Sections 3, 4, 5, 8, 9, 10, 19, 20, 21-12s-2w. **Means of Discovery:** Torsion balance, Salt Dome Oil Co., The Texas Co., Magnolia Petroleum Co., 1934; reflection seismograph, Pure Oil Co., 1934. **Extent of Development:** Undrilled. **Principal Leaseholders:** Magnolia, Pure.

WHITE LAKE*

Sections 8, 9, 10, 16, 17-15s-1e. Seismograph, Louisiana Land & Exploration Co., Gulf Refining Co., Shell Petroleum Corp., Humble Oil & Refining Co., 1929. **Extent of Development:** Shell's Herbert 1, 10-15s-1e, quit at 7606 ft, 1933.

*Prospect. †Salt dome, no production. ‡Gas field.

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Markets Improve

PRODUCTION UNDER CONTROL AND DEMAND IS INCREASING

MARKETS have shown some improvement within the past week, and it is indicated that steady or rising prices lie ahead. Throughout the country crude oil production is under effective control, and demand for both gasoline and kerosene is increasing, with more moderate weather stimulating motoring and inducing purchases of kerosene and tractor fuels for impending farm activities.

The prevailing crude market became more firmly established March 7, when the new, higher prices for California were extended into five additional fields, leaving only four fields in the state where production has not been lowered enough for the producers to earn the increased postings.

Although the Pacific Coast states still had the sub-normal retail gasoline prices recently posted, there was hope that the gasoline market soon would strengthen materially, because of the success in curtailing California's crude production.

Kerosene Market Strong

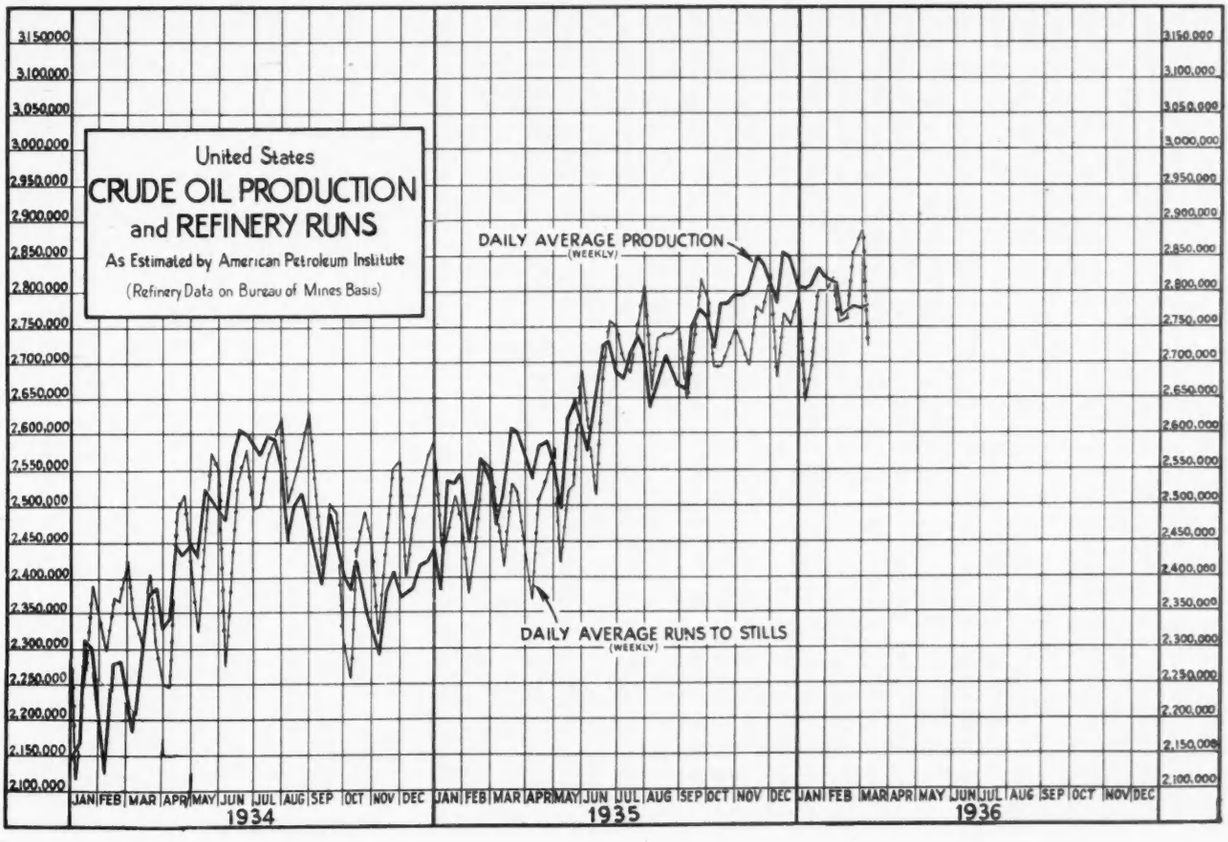
East of the Rockies, the situation has continued to be featured by a strong and rising market for kerosene. In the past week the tank car prices of kerosene in the Mid-Continent made another gain of an eighth cent a gallon. Late in the week prices for kerosene f.o.b. Oklahoma refineries ranged between 4 and 4¼ cents per gallon for the 41-43 water white material and between 4¼ and 4½ cents for the 42-44 water white grade. The supplies of kerosene were remarkably scarce in all sections of the Mid-Continent, with most refiners trying to build up their stocks. The demand for tractor fuel, similarly, was active.

The strength of the kerosene and tractor fuel markets during the past several weeks reflects the preparations now under way for commencement of spring plowing and other farm activities. Work in the fields actually has begun in the extreme southern and southwestern portions of the country, and coming weeks are expected to bring gradual extension of the activity toward the north. Plowing is likely to be in progress by about April 1 over a considerable portion of the Middle Western farming region.

One of the reasons for the present comparative scarcity of kerosene and tractor fuel is the fact numerous refiners failed to build up stocks of these materials in the opening months of the year, as they normally do. Instead, they were turning out light fuel oils in response to the existing strong demand. Consequently, some refiners now are buying rather than selling kerosene, to protect themselves on commitments. Meanwhile, some other refiners, while not buying, yet are not offering any of their supplies in the open market, being desirous of increasin their inventories, in expectation of a good market in the spring.

Gasoline Shows Improvement

The gasoline market was perceptibly stronger throughout the Mid-Continent last week, as compared with the previous week. Shipments have increased to about normal proportions, following the long period of adverse weather



and curtailed consumption; and there is no longer any great amount of surplus material. Consequently, relatively little gasoline is available, even in East Texas, at less than the established market prices. The tank car prices continued mostly unchanged through the past week on the low octane motor fuel, but prices were up an eighth cent generally on the 63-70 octane or regular grade gasoline. The one eighth cent advance of the tank car price in Oklahoma prompted Standard Oil Company of Ohio March 6 to raise its posted tank car prices similarly.

Late in the past week the East Texas refiners were generally quoting fully tendered third grade gasoline at 4⅞ cents a gallon f.o.b. plants, and brokers were finding it difficult to find any material for less that could be shipped interstate. As usual, however, lower prices prevailed on gasoline supported only by state tenders and limited to rail or truck shipment within the state, while the minimum selling prices were those involving questionable material moving without tenders in trucks. Although traffic in hot oil has increased somewhat in East Texas lately, the daily volume still continues comparatively small and without great effect on the market.

U. S. motor gasoline prices f.o.b. Oklahoma and Kansas refineries, meanwhile, ranged from 5 to 5⅛ cents a gallon on the third grade (62 octane and below), and from 6 to 6⅛ cents on the regular grade (63 to 70 octane rating).

Although fuel oils were in somewhat smaller demand the past week, particularly as regards the light oils for heating purposes, the prices have remained unchanged and fairly steady. Tending to sustain the existing prices was the fact that supplies were not excessive, as refiners have turned generally from production of these oils to the making of kerosene and tractor fuel.

East Texas Tank Car Shipments

Week Ending March 8, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	558	4,526,281
Fuel Oil	176	1,669,642
Casinghead Gasoline	144	1,187,454
Distillate	45	364,097
Kerosene	41	323,813
Gas Oil	28	226,609
Residuum	3	24,249
Naphtha	1	4,247
Total	996	8,326,392
Total Previous Week	1,115	9,477,964
Coastwise	399	.....
Interstate	346	.....
Intrastate	251	.....
Total	996	.....

MARKET IS STRONGER

Major buyers absorb East Texas gasoline

Tyler.—Added support was given the East Texas gasoline market last week. Offerings were absorbed by majors at a price range of 4⅝ to 4⅞ cents per gallon. Purchases made through the buying pool commanded the top price.

Early spring demand is reflected by increased volume of intrastate shipments of gasoline to jobbers at prices ranging from 4 to 4⅝ cents per gallon, with majority of the plants now holding for the higher price since excess stocks have been sharply reduced.

Tank truck sales to Texas jobbers command an average dock price of 4 cents per gallon, but an increase in hot oil runs by the minority of the 22 operating plants has created some distress priced motor fuel.

Illegal crude production is currently estimated at about 22,000 barrels daily or an increase of 2000 barrels over the previous week.

Petroleum Prices 51.3 Percent of Normal

Wholesale prices for petroleum products during 1935 advanced 1.6 percent over 1934 and 25.1 percent over 1933, figures recently compiled by the Department of Statistics of the American Petroleum Institute indicate.

Prices for Mid-Continent crude oil recovered 65.8 percent from the 1933 level, remaining constant during 1934 and 1935. California crude recovered only 5.9 percent over the 2-year period and declined 3 percent from 1934. Mid-Continent gasoline advanced 39.1 percent over 1933 and 15 percent over 1934. California gasoline declined 11.7 percent from the 1933 level and 21 percent from that of 1934.

Prices for all commodities for 1935, as compared with those of 1934 and 1933, advanced 6.8 percent and 21.4 percent, respectively. While average wholesale prices of other commodities are now 80 percent of normal, petroleum prices are still only 51.3 percent of those prevailing in 1926, which is considered a normal year.

Because of the comparative rigidity of prices in the durable goods industries, such as metals, building materials and house furnishing goods, recovery in this group was less marked than in the consumption goods industries, of which gasoline is a principal item, where prices are usually flexible and respond to the effects of business depression.

Recovery in foods and farm products, on the other hand, was far above the average. Over the 2-year period, prices for farm products advanced 53.3 percent, while those of foods increased 38.3 percent.

Wichita, Kan.—Kaw Pipe Line Company announced connections were completed to Ruder (Schoenchen) and Victoria pools of Ellis County March 15. The six-inch line which connects the two new pools was commenced several weeks ago at Gorham, but bad weather delayed the work almost a month.

Ruder pool was discovered by Tom Palmer and Storm King Oil Company in August, 1935, and the Victoria pool by Twin Drilling Company in December, 1935. The former produces from the Oswald and Arbuckle (siliceous) limes, and the latter from the Oswald lime.

Summary of Wells Completed in the United States Week Ending March 14, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this date 1935
Alabama	....	....	....	....	.....	....	1
Arkansas	1	....	....	1	.....	18	43
California	9	7	....	2	3,620	163	154
Colorado	1	....	....	1	.....	1	3
Illinois	....	....	....	....	.....	4	6
Indiana	16	1	6	9	10	50	36
Kansas	32	25	....	7	22,277	259	256
Kentucky	....	....	....	....	.....	21	20
Louisiana	22	16	3	3	69,118	180	144
Michigan	10	7	2	1	750	137	66
Mississippi	....	....	....	....	.....	1	5
Montana	1	1	....	....	15	18	11
New Mexico	7	6	1	....	8,343	86	56
New York	....	....	....	....	.....	....	....
Ohio	24	4	11	9	21	421	312
Oklahoma	48	32	3	13	23,010	502	438
Pennsylvania	....	....	....	....	.....	....	28
Texas	219	172	8	39	355,689	2,163	2,212
Utah	....	....	....	....	.....	....	....
West Virginia	9	3	5	1	42	127	118
Wyoming	....	....	....	....	.....	6	6
Total this week	399	274	39	86	482,895	4,157	3,916
Total last week	397	262	28	107	470,030	....	....
Total this year	4,157	2,738	456	963	.....	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Mar. 14	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	1	2	16	31	70
California	14	32	163	129	925
Louisiana	32	52	214	123	846
Kansas	41	73	311	252	1,204
Michigan	13	14	109	72	749
Oklahoma	66	99	475	345	2,311
Texas	212	444	2,302	2,171	10,800
Total	379	716	3,563	3,123	16,964

OUTPUT MODERATE

Crude production higher but still near demand

MODERATION was manifested again last week in the nation's production of crude oil, although the output was higher than in the previous week. For the week, ended March 14, the national production averaged 2,800,325 barrels daily. That was 61,425 barrels more than the average daily production recommended for March by the Bureau of Mines, and 57,025 barrels a day more than the output in the previous week.

With the exception of week before last, when output about conformed with the federal recommendation, last week's record reflected the best control of crude production for many weeks.

The comparatively small excess last week of 61,425 barrels daily was accounted for largely by Louisiana and California, in the order named. Louisiana is producing about in conformity with a state proration schedule, but the schedule is above the Bureau of Mines estimate of consumer demand. The state last week averaged 191,050 barrels daily, or about 40,000 barrels a day more than the recommendation, although output was down about 10,000 barrels from the high level of the previous week.

California still is in earnest in its curtailment program, having averaged 566,000 barrels daily last week, or 2500 barrels a day less than in the previous week. The new average rate was within 27,200 barrels of the 538,800 barrels per day estimated as the proper level.

Texas production last week averaged 1,105,500 barrels daily, or only 1500 barrels a day more than the Bureau of Mines recommendation. The output was appreciably higher than in the previous week, reflecting increased allowables.

Oklahoma last week was about 8000 barrels above the Bureau of Mines estimate of demand, having averaged 514,775 barrels daily, or about 30,000 barrels a day more than in the preceding week. It is customary for Oklahoma producers to draw somewhat heavily on their wells in the early part of each month, and then to compensate later by cutting production back.

Kansas production last week was practically unchanged from the week before, continuing almost 1000 barrels under the estimated demand, in averaging 141,150 barrels per day.

Shreveport, March 13.—Standard Pipe Line Company of Louisiana announced today that effective at once it will take the full 400 barrels daily allowable from every well to which it has connections in the Rodessa field.

It has an eight-inch line with 40,000 barrels daily capacity. December 21 it restricted purchases for runs to 21,000 barrels daily.

Governor James A. Noe of Louisiana in Shreveport Friday declared that a detachment of agents he sent to Rodessa a week ago has halted any running of hot oil in that field.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING March 14	March 7
TEXAS—		
Texas Panhandle	65,200	59,400
North Texas	56,800	56,600
West Central Texas	24,800	24,800
West Texas	175,200	162,500
East Central Texas	49,100	49,100
*East Texas Field	438,300	437,600
†South Texas	71,600	70,700
†Texas Gulf Coast	224,500	219,800
*Total Texas	1,105,500	1,080,600
OKLAHOMA—		
Oklahoma City	120,775	107,500
Seminole Area	129,900	120,375
Tatums	3,575	3,575
Lucien	11,750	10,750
Fitts	51,400	43,200
Edmond	14,950	10,100
Others	182,425	177,700
Total Oklahoma	514,775	473,200
KANSAS—		
Ritz-Canton	7,100	7,300
Voshell	3,900	2,675
Nikkel-Hollow	4,100	4,325
Sedgwick	6,000	5,600
Oxford	7,100	7,375
Burrton-Haury	14,700	11,950
Lorraine	7,400	9,300
Others	90,850	92,575
Total Kansas	141,150	141,100
LOUISIANA—		
North Louisiana	56,850	68,300
Louisiana Gulf Coast	134,200	133,600
Total Louisiana	191,050	201,900
ARKANSAS	29,350	29,500
CALIFORNIA—		
Long Beach	68,500	69,000
Santa Fe Springs	43,500	43,500
Huntington Beach	36,500	36,500
Dominguez	27,000	30,500
Inglewood	11,000	11,800
Ventura Avenue	33,000	34,000
Seal Beach	7,500	7,500
Midway-Sunset	55,200	53,500
Elwood	12,000	12,000
Kettleman Hills	77,000	76,000
Mountain View	27,500	27,000
Playa del Rey	12,500	13,000
Others	154,000	154,200
Total California	566,000	568,500
MOUNTAIN STATES—		
Wyoming	35,200	32,100
Montana	12,500	12,400
Colorado	4,100	4,100
Total Rocky Mountain States	51,800	48,600
NEW MEXICO	58,200	57,100
EASTERN STATES	105,800	105,400
MICHIGAN	36,700	37,400
*Total United States	2,800,325	2,743,300
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	10,000	10,000
Grand Total, including surreptitious production	2,810,325	2,753,300

† Coastal District of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended March 7, 1936

(Figures in thousands of barrels of 42 gallons each as reported by American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
		Reporting				Finished								Reporting		
	Potential Rate	Total	%	Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Total	%	Daily Average
East Coast	612	612	100.0	491	80.2	6,806	10,119	1,084	18,009	2,295	3,492	5,787	534	534	100.0	105
Appalachian	154	146	94.8	96	65.8	1,728	899	268	2,895	503	219	722	79	78	98.7	23
Ind., Ill., Ky	442	424	95.9	372	87.7	7,542	3,101	866	11,509	1,024	1,512	2,536	349	348	99.7	110
Okla., Kans., Mo	453	384	84.8	221	57.6	4,921	2,412	701	8,034	667	1,841	2,508	256	228	89.1	57
Inland Texas	330	160	48.5	91	56.9	1,543	74	244	1,861	162	1,253	1,415	148	105	70.9	25
Texas Gulf	680	658	96.8	573	87.1	7,146	228	1,859	9,233	2,532	4,481	7,013	399	393	98.5	136
Louisiana Gulf	169	163	96.4	119	73.0	1,123	366	197	1,686	845	1,751	2,596	77	74	96.1	26
North La.,—Ark	80	72	90.0	36	50.0	175	89	146	410	14	400	414	46	44	95.7	8
Rocky Mountain	97	60	61.9	37	61.7	1,518	.....	90	1,608	185	512	697	46	39	84.8	14
California	852	789	92.6	493	62.5	9,945	2,374	1,152	13,471	.....	.....	(a) 70,567	280	280	100.0	61
Reported	.....	3,468	89.6	2,529	72.9	42,447	19,662	6,607	68,716	.....	.....	(b) 94,255	.....	2,123	95.9	565
Estimated Unreported	.....	401	.....	196	.....	2,686	259	620	3,565	.....	.....	1,633	.....	91	.....	35
*Estimated Total U.S. March 7, 1936	3,869	3,869	.....	2,725	.....	45,133	19,921	7,227	72,281	.....	.....	95,888	2,214	2,214	.....	600
*Estimated Total U.S. February 29, 1936	3,869	3,869	.....	2,870	.....	44,657	19,169	7,011	70,837	.....	.....	96,731	2,214	2,214	.....	585
U. S. B. of M., March, 1935	.....	.....	.....	2,472	.....	†40,220	†20,185	†5,885	†66,290	.....	.....	†99,380	.....	.....	.....	517

* Bureau of Mines basis currently estimated. † As of March 31, 1935. Stocks as of February 29th revised as follows: (a) 70,511 barrels.; (b) 95,093 barrels.

CALIFORNIA

More fields given crude price boost

STANDARD Oil Company of California, effective March 7, increased crude prices in five fields in California, in keeping with raises announced February 25. There are now only four fields or areas in the state not enjoying higher prices.

Fields not securing new and higher prices include Alamitos Heights and Dominguez in Los Angeles Basin and Elk Hills and the Lakeview area of the Midway-Sunset field in San Joaquin Valley. These four fields have a daily production of about 45,000 barrels. Dominguez is controlled almost entirely by Union Oil Company and Shell Oil Company with an over-production of close to 7000 barrels a day. Other fields not yet raised are largely controlled by smaller producers.

The state's allowable for March has been fixed at 538,050 barrels a day, and on March 9, the production was 565,897 barrels, showing an excess of 27,847 barrels. Of this total excess, 19,658 barrels is furnished by Los Angeles Basin fields. More than half of this excess comes from Long Beach and Dominguez. No other field in the Basin has an excess of as much as 2000 barrels a day.

Standard Oil Company's statement is as follows:

"The Standard Oil Company of California announces, effective 7 a.m., March 7, 1936, an advance in the price it offers for refinable crude oil in the Playa del Rey, Santa Fe Springs, Huntington Beach, and Signal Hill (Long Beach) fields to a figure relative to a base price of $1.10 per barrel for 27 degrees gravity Signal Hill Crude oil, and an advance of 5 cents per barrel for heavy crude oil in the Kern Front field.

"On February 25 the company advanced prices in 21 fields where production of crude oil had been reduced to the figures set by the committees of the industry. The company is now extending these advances to the 5 fields mentioned above because of the reduction which has been made, although some of them have not attained the desired result. In these fields which are not down to quotas the advance is made in recognition of efforts made, and with the expectation that continued efforts will result in and justify continuance of the new price schedule.

"The advanced prices are now effective in all fields where the company currently offers to purchase crude oil except Alamitos Heights, Dominguez, Elk Hills and the Lakeview Area of Midway Sunset.

Rumors continue that gasoline prices will be boosted from two to three cents a gallon throughout the West Coast, but apparently many further differences are yet to be wiped out. Several of the major companies have secondary companies, and it is charged such companies are used to dump gasoline at lower prices. In most instances, such charges are denied, but the charges and counter charges do not make for good will between some of the larger companies, and some of the more important independents are rather exasperated over the situation.

Another serious situation is the large stocks of gasoline being held by smaller refiners, made from cheap crude. This surplus is hanging over the heads of all, and so far no way has been found to move it in a manner agreeable to all. There is a general fear that if retail gasoline prices are boosted, some of this surplus will find its way into the market at reduced prices.

There is a general feeling that the California situation is to show marked improvement, and that some way will be found to compose the various differences, at least before the heavy consumption period of early spring is here. Under the code it was possible to buy up this gasoline surplus, but under present conditions no company wants to run foul of the anti-trust law. No one company is willing to take over all of the heavy surplus at a price that would be satisfactory to the small refiners.

There is practically no gas waste in the state now, due to heavy consumption and shutting back of the wells.

CITIES SERVICE DEAL

Company trades stock for interest in Rio Grande

Los Angeles.—Local attorneys for the Cities Service Company announce the transfer of its holdings in the Richfield Oil Company, which is in the hands of receivers, and in the Pan American Petroleum Company to the Rio Grande Oil Company in exchange for one-half of the capital stock of the latter.

This transfer places Rio Grande Oil Company, which is controlled by the Consolidated Oil Corporation, in the position of being the largest creditor of Richfield.

In June, 1935, Cities Service owned $6,383,000 of Richfield bonds and $1,503,000 of Pan American bonds. Cities Service also owns substantial amounts of both preferred and common stocks of Richfield.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to March 13, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	*.90			1- 9-36
Saxet	*.90			1- 9-36
Mirando	*.85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	*.97			1-14-36
Darst Creek	*.97			1-14-36
Port Lavaca	*.97			
Plymouth	*.90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	*.75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	*.97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	*.58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	*.90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.12			11- 7-35
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °46
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill*	Seal Beach Alamitos Heights*	Huntington Beach*	Inglewood	Playa Del Rey*	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs*	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	.....	.....	$.80	$.76	$.76	$.77	$.78	.....	$.70	.....	$.70	$.70	$.70	.....
15-15.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
16-16.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
17-17.9	.80	.79	.78	.81	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
18-18.9	.80	.79	.78	.84	.80	.78	.....	.....	.82	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
19-19.9	.82	.79	.82	.87	.84	.81	.....	.....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	.....	.....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	.....	.....	.91	.80	.85	.77	.84	.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	.....	.....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	.....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	.....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	.....	1.02	.95	.....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	.....	1.05	.98	.....	.92	1.03	.90	.....	.91	1.06	1.02	.....	.....
27-27.9	1.10	1.05	1.11	1.12	.....	1.10	1.03	.....	.....	1.02	.....	.96	1.06	.95	.....	.95	1.10	1.06	.....	.....
28-28.9	1.14	1.10	1.14	1.15	.....	1.14	1.07	.....	.....	1.06	.....	.99	1.10	.99	.....	.99	1.15	1.10	.....	.....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	.....	.....	1.09	.....	1.03	1.14	1.03	.....	1.02	1.20	1.14	.....	.....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	.....	.....	.....	1.07	1.17	1.08	.....	1.06	1.25	1.18	.....	.....
31-31.9	.....	.....	.....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	.....	.....	.....
32-32.9	.....	.....	.....	1.27	.....	1.27	1.27	.....				1.14	1.25	1.16	.....	1.13	1.34	.....	.....	.....
33-33.9	.....	.....	.....	.....	.....	.....	1.32	$1.28		1.19		1.18	1.28	1.20	.....	1.17	1.38	.....	.....	.....
34-34.9	.....	.....	.....	.....	.....	.....	1.37	1.32	.....	1.23	.....	1.22	1.32	1.25	.....	1.20	.....	.....	.....	.....
35-35.9	.....	.....	.....	.....	.....	.....	1.42	1.35	.....	1.27	.....	1.25	.....	1.29	.....	.....	.....	.....	.....	.....
36-36.9	.....	.....	.....	.....	.....	.....	1.46	1.39	.....	1.31	.....	1.29	.....	1.33	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	.....	1.51	1.43	.....	1.35	.....	1.32	.....	1.37	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	.....	1.56	.....	.....	1.39	.....	1.36	.....	1.42	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	.....	1.61	.....	.....	1.43	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	.....	.....	1.43	.....	.....	.....	.....	.....	.....	.....	.....

* Price effective March 6, 1936.

Compact Gains Favor

OTHER PRODUCING STATES DUE TO JOIN DURING YEAR

Oklahoma City.—Representatives of five of the six compacting states and unofficial observers from six other oil producing states agreed that the Interstate Oil Compact Commission has done much to further the interests of the petroleum industry as the meeting of the commission was brought to a close here March 13.

In opening the meeting Friday morning, Governor E. W. Marland of Oklahoma, permanent chairman, outlined the achievements and stated some of the objectives of the commission, and said:

"A year ago the petroleum code was in effect and Congress had before it bills with powerful backing designed to extend and put on a permanent basis the federal authority implied in the petroleum code. Those men in the industry who were convinced of the unconstitutionality of federal regulation, who believed in conservation and who were seeking accomplishment of a conservation compact among the oil producing states were at the time encountering difficulties in bringing such an agreement about. Since then there has been a shift in the center of gravity. Today, by virtue of the Supreme Court's decision, the petroleum code is not in existence, the industry is not operating under an administrator and the federal control bills are not on the congressional calendar. In view of what the Supreme Court has said about the local character of mining and manufacturing, the problem today is not whether the federal government or the state governments ought to regulate production but how effective we can make the devices that are available to us under the constitution for the conservation of the nation's oil resources. The Interstate Oil Compact Commission ratified during the past year by Texas, Oklahoma, Kansas, New Mexico, Colorado and Illinois and approved by Congress, but not yet in effect in California, is the mechanism now at work."

Following the address by Governor Marland reports of the various active committees were presented. Homer Hoch, chairman of the Kansas Corporation Commission, presented the report of the subcommittee on conservation of which he is chairman, and Marvin Lee, technical advisor to the Kansas Corporation Commission; Dr. E. H. Wells, state geologist for New Mexico; and C. C. Brown, Oklahoma Tax Commission, are members.

E. O. Thompson, chairman of the Texas Railroad Commission, presented the report of the subcommittee on coordination and Dr. E. H. Wells presented the report of the subcommittee on consumption. William Bell, official representative of Illinois, stated that the committee on imports and exports had not completed its work in time to report at that session.

It was indicated that legislation proposed to several other state legislatures in regard to joining the compact is meeting favorable reaction and two or more oil producing states may become members of the commission before the end of the year.

The next meeting of the commission was set for July 31 to be held in Dallas. States not belonging to the commission but represented in the meeting were Wyoming, by Wilford O'Leary; Ohio, by Windell Stephens; Indiana, by V. E. Bolyard; Kentucky, by E. L. McDonald; Michigan, by H. O. Hunt; and California, by J. R. Pemberton.

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Geologists Meeting

THREE SOCIETIES PLAN USEFUL TULSA SESSION

A program of broad appeal and practical utility has been prepared for presentation to those who will attend in Tulsa March 19, 20 and 21 the twenty-first annual meeting of the American Association of Petroleum Geologists and affiliated organizations, the Society of Petroleum Geophysicists and the Society of Economic Paleontologists and Mineralogists. The geophysicists will be celebrating their seventh annual meeting and the paleontologists and mineralogists their tenth convention.

Due to the wide scope of subjects to be covered and the fact that preliminary plans call for presentation of 43 papers in the geological division, 14 papers in the paleontological and mineralogical division, and 14 papers in the geophysical division, three sessions will have to be conducted simultaneously. The complete program appeared in the February 24 issue of THE OIL WEEKLY.

Each of the sessions will be opened by an address from the president of the organization. A. I. Levorsen, formerly with Tide Water Oil Company, is president of the American Association of Petroleum Geologists. B. B. Weatherby, Geophysical Research Corporation, Tulsa, is president of the Society of Petroleum Geophysicists, and W. F. Twenhofel is president of the Society of Economic Paleontologists and Mineralogists.

In addition to the technical program the following entertainment will be provided: evening of March 19, smoker at the Mayo hotel, general headquarters; evening of March 20, annual banquet and dance, Mayo hotel; after close of convention, field trip through the Ada district and the Arbuckle Mountains.

The program as lately revised is as follows:

PRE-CONVENTION

Tuesday, March 17

7:00 p.m.—Executive Committee, A. I. Levorsen, chairman.

Wednesday, March 18

Registration, South Mezzanine, Mayo Hotel.

9:00 a.m.—Committee on Applications of Geology, Frank Rinker Clark, chairman; French Room, Mezzanine, Mayo Hotel.

9:00 a.m.—Committee on Geologic Names and Correlations, Ira H. Cram, chairman; Room B, Mezzanine, Mayo Hotel.

10:00 a.m.—Executive Committee and Finance Committee, joint meeting.

10:00 a.m.—Society Petroleum Geophysicists, Executive Committee and Business Committee, joint meeting, French Room, Tulsa Hotel.

2:00 p.m.—General Business Committee, H. B. Fuqua, chairman; Junior Ballroom, Mezzanine, Mayo Hotel.

6:30 p.m.—Informal Dinner, Research Committee, followed by round table discussion of "Variation of Occurrences and Character of Oil and Gas With Variation of Stratigraphic Facies." Open to all Association members. Inquire at Registration Desk.

CONVENTION

Thursday, March 19

7:30 a.m.—Registration, South Mezzanine, Mayo Hotel.

9:00 a.m.—Society Petroleum Geophysicists Business Meeting, Art Moderne Room, Tulsa Hotel.

9:45 a.m.—Address of Welcome and Response, Crystal Ballroom, Mayo Hotel.

10:30 a.m.—General Technical Session, Crystal Ballroom, Mayo Hotel.

10:30 a.m.—Technical Session, Society of Petroleum Geophysicists, Art Moderne Room, Tulsa Hotel.

12:00—Geophysicists' Luncheon, Tulsa Hotel.

1:45 p.m.—Stratigraphic Session, Ballroom, University Club.

1:30 p.m.—Technical Session, Society of Petroleum Geophysicists, papers of general interest; Crystal Ballroom, Mayo Hotel.

3:00 p.m.—Musical Tea for Ladies of A. A. P. G., Oakhurst Country Club. Busses leave Mayo Hotel: 2:45, 3:00, 3:30, 4:00, 4:30.

4:45 p.m.—Announcements, nomination of officers, appointment of committees, Crystal Ballroom, Mayo Hotel.

8:00 p.m.—Smoker and Entertainment, Crystal Ballroom, Mayo Hotel.

Friday, March 20

8:00 a.m.—Ballot boxes open, Association Booth, South Mezzanine, Mayo Hotel.

9:00 a.m.—General Technical Session, continued, Crystal Ballroom, Mayo Hotel.

9:00 a.m.—Technical Session, Society of Economic Paleontologists and Mineralogists, Junior Ballroom, Mezzanine, Mayo Hotel.

9:00 a.m.—Technical Session, Society of Petroleum Geophysicists, Art Moderne Room, Lobby Floor, Tulsa Hotel.

12:30 p.m.—College and Fraternity Luncheon. Details at Registration Desk.

12:30 p.m.—Paleontologists' Luncheon, Rooms A and B, Mezzanine, Mayo Hotel.

12:30 p.m.—Spring Luncheon with Fashion Review for Ladies of A. A. P. G., Tulsa Country Club. Busses leave Mayo Hotel 12:15 and 12:30.

1:00 p.m.—Golf Tournament for Bostick Cup, Tulsa Country Club.

1:30 p.m.—Technical Session, Society Petroleum Geophysicists, Art Moderne Room, Lobby Floor, Tulsa Hotel.

1:45-5:00 p.m.—General Technical Session, continued, Crystal Ballroom, Mayo Hotel.

2:00-4:00 p.m.—Technical Session, Society of Economic Paleontologists and Mineralogists, Junior Ballroom, Mezzanine, Mayo Hotel.

4:00 p.m.—Annual Business Meeting, Society of Economic Paleontologists and Mineralogists, Junior Ballroom, Mezzanine, Mayo Hotel.

7:30 p.m.—Banquet and Dance, Mayo Hotel and University Club (opposite Mayo).

9:00 a.m.—Twenty-First Annual Business Meeting, Announcement of Elections, Crystal Ballroom, Mayo Hotel.

10:00 a.m.—Executive Committees,

A. I. LEVORSEN
President American Association of Petroleum Geologists

Blank & Stoller.

B. B. WEATHERBY
President Society of Petroleum Geophysicists

Joint Meeting 1935 Committee and 1936 Committee.

10:00 a.m.—General Technical Session, continued, Crystal Ballroom, Mayo Hotel.

10:00 a.m.—Technical Session, Society of Petroleum Geophysicists, Art Moderne Room, Lobby Floor, Tulsa Hotel.

1:45 p.m.—General Technical Session, concluded, Crystal Ballroom, Mayo Hotel.

Night—For fraternity, college, survey, or group dinners, dances, etc., see bulletin board near registration counter, South Mezzanine, Mayo Hotel.

THURSDAY, MARCH 19
Crystal Ballroom, Mayo Hotel

9:34 a.m.—Address of welcome. Response—Frank A. Morgan.

Technical Program

Thursday 10:30 a.m.—Frank A. Morgan, chairman; R. B. Rutledge, vice chairman.

1. A. I. Levorsen—Presidential Address, Stratigraphic vs. Structural Accumulation.

2. W. H. Twenhofel—Presidential Address, Marine Unconformities, Marine Conglomerates and Thickness of Strata.

3. R. D. Reed—Structural Evolution of Southern California.

4. Joseph E. Pogue—Price of Crude Oil in Perspective.

Thursday 1:45 p.m.-4:45p.m.—E. C. Moncrief, chairman; Charles D. Vertrees, vice chairman.

Ballroom University Club
Stratigraphic Papers

5. Robert Roth—Notes on the Base of the Custer.

6. Glenn Grimes—Revision of Pennsylvanian-Permian Contact on North American Continent.

7. Darsie A. Green—The Pre-Marlow Permian of Central Oklahoma.

8. W. B. Lang—The Stratigraphy of the Permian Rocks in Southeastern New Nexico. Presented by Hugh D. Miser.

9. E. Obering—Salt Deposition in the Permian Basin.

10 Robert H. Dott—Some Pennsylvanian Correlations in East-Central Oklahoma.

11. T. A. Hendricks, C. H. Dane, M. M. Knechtel—Stratigraphy of Pennsylvanian Rocks of the Arkansas-Oklahoma Coal Basin.

12. Charles E. Decker—Some Tentative Correlations on the Basis of Graptolites of Oklahoma and Arkansas.

13. Josiah Bridge, T. A. Hendricks, M. M. Knechtel—Geology of Black Knob Ridge Oklahoma.

Announcements, nominations of officers, appointment of committees—Crystal ballroom.

FRIDAY, MARCH 20
Crystal Ballroom

Technical Program Continued

Friday 9:00 a.m.—A. I. Levorsen, chairman; Paul E. Nash, vice chairman.

14. H. B. Stenzel—The Rim Syncline of the Marquez Salt Dome, Texas.

15. Michel T. Halbouty—High Island Salt Dome, Galveston County, Texas.

16. J. Boyd Best — West Tuleta, Dirks, and Ray Oil Fields, Bee County, Texas.

17. S. W. Lowman—Central Oklahoma Uplift.

18. Don L. Hyatt—Fitts Oil Field, Pontotoc County, Oklahoma.

19. H. S. McQueen—Pre-Mississippian Structural History of the Ozark Uplift of Southern Missouri.

20. Richard B. Rutledge, Howard S. Bryant—Cunningham Field, Kingman and Pratt Counties, Kansas.

21. John Emery Adams—Oil Pool of Open Reservoir Type.

22. W. A. Ver Wiebe—Geosynclinal Boundary Faults.

Friday 1:45 p.m.—L. C. Snider, chairman; Joseph M. Dawson, vice chairman.

Symposium on Recent Developments

23. Howard S. Bryant—Kansas.

24. Edward F. Shea—Oklahoma.

25. Theron Wasson — Oil and Gas Fields of Michigan with Particular Reference to Recent Developments.

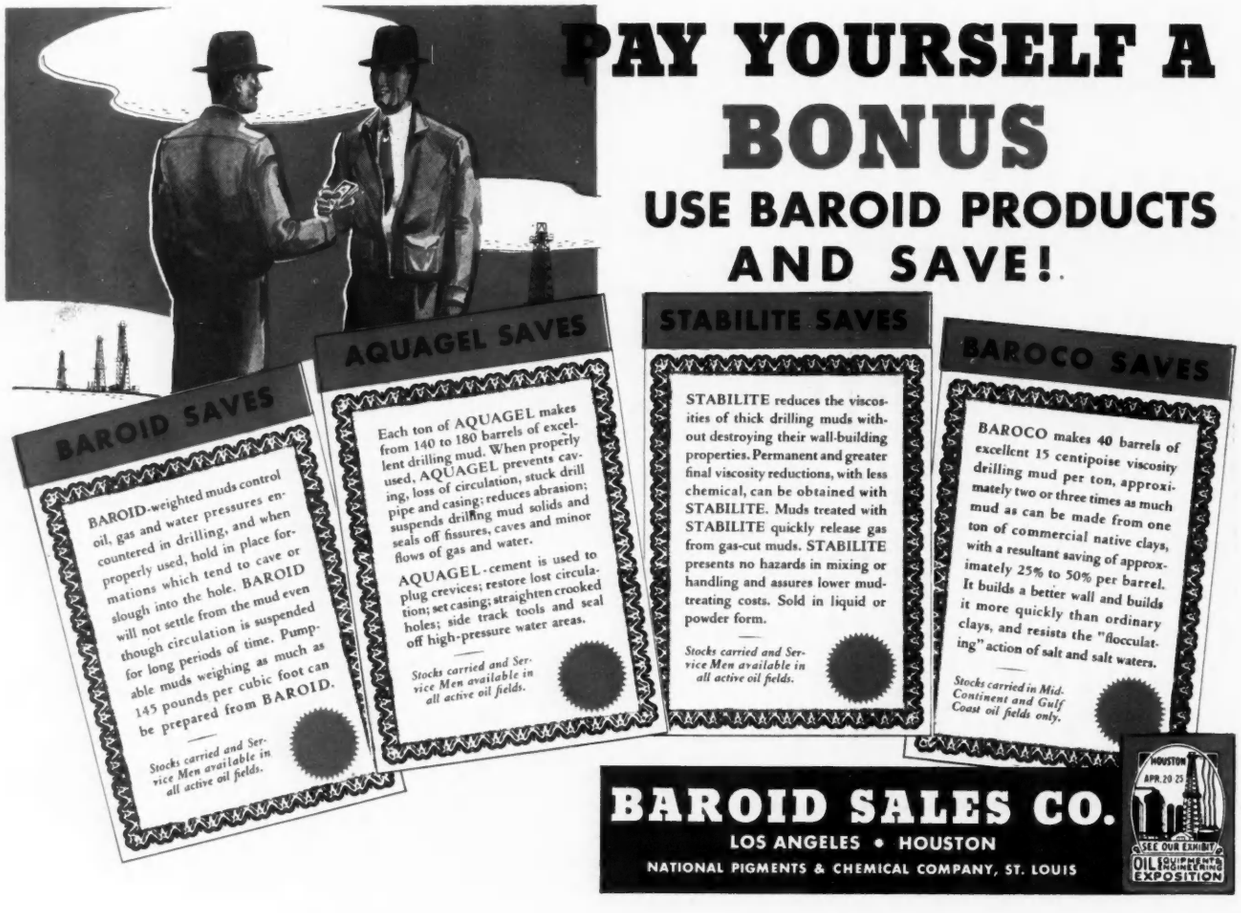
26. William B. Heroy — Foreign Fields.

27. Orval L. Brace—Gulf Coast.

28. Harry H. Nowlan—San Antonio District.

29. Wallace Ralston—East Texas.

30. H. Rogers Van Gilder—North Appalachian Province of Oriskany Pro-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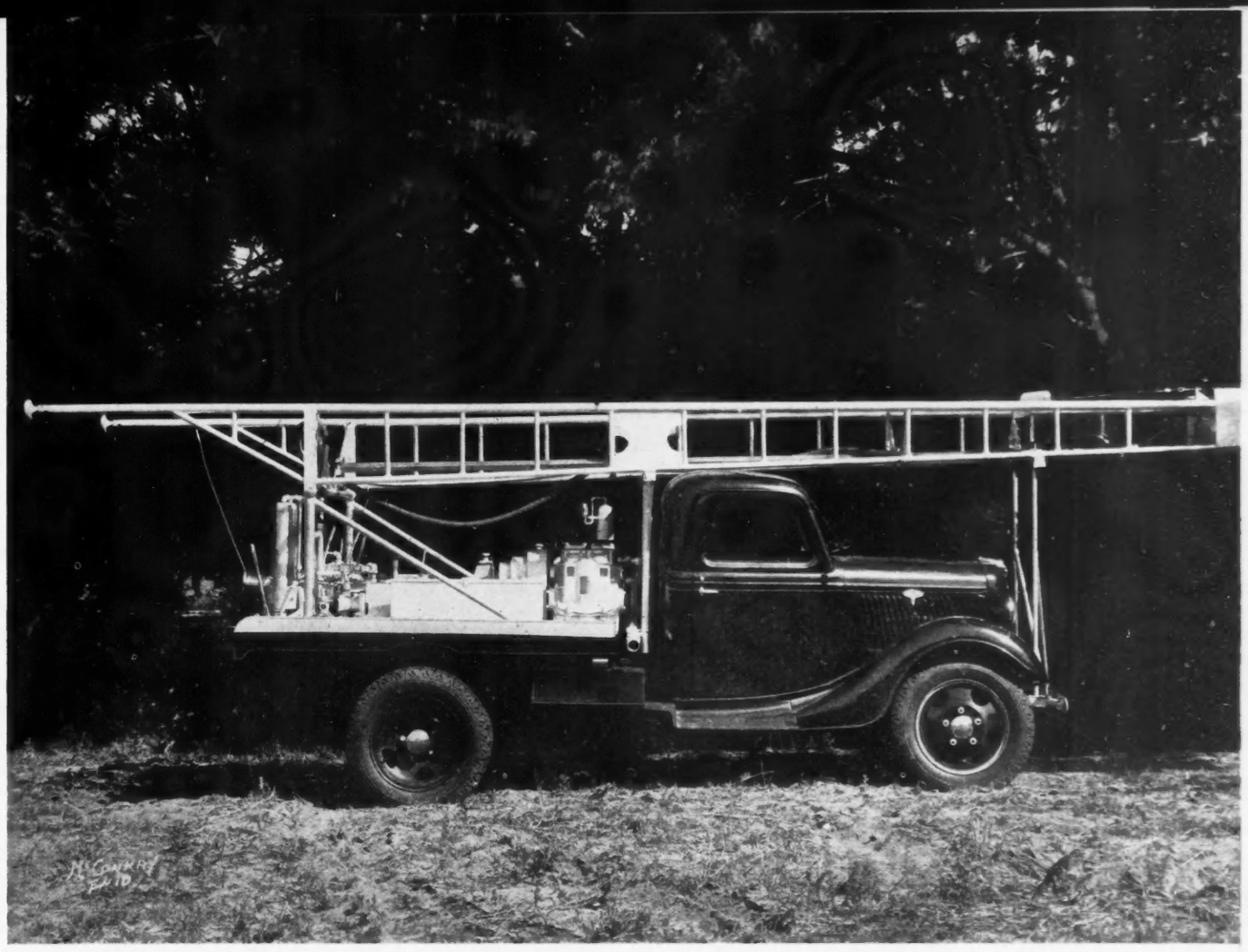

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SATURDAY, MARCH 21
Crystal Ballroom

Annual Business Meeting, 9:00 a.m.

Saturday 10:00 a.m.—Donald C. Barton, chairman; Henry J. Hawley, vice chairman.

31. Henry V. Howe — Stratigraphic Evidence for Gulf Coast Geosyncline.

32. C. W. Tomlinson—Structural History of the Criner Hills.

33. Watson Monroe—Factors Affecting the Geologic History of the Jackson Area, Mississippi.

34. N. W. Bass, Constance Leatherock, W. R. Dillard, L. E. Kennedy—Characteristics and Origin of the Bartlesville and Burbank Sands in Osage and Kay Counties, Oklahoma, and Cowley, Butler and Greenwood Counties, Kansas.

35. F. G. Clapp—Geology and Bitumens of Dead Sea Area, Palestine, and Trans-Jordan.

36. D. D. Utterback, W. V. Howard —Bituminous Limestones and Sandstones.

37. Parker D. Trask — Studies of Some Possible Source Beds in Oklahoma and Kansas.

Saturday 1:45 p.m.-5:00 p.m.—R. L. Heaton, chairman; Tom L. Coleman, vice chairman.

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Symposium on Recent Developments, Continued

38. Robers Roth—North Texas.
39. Harold W. Hoots—California.
40. Hal P. Bybee—West Texas and Southeastern New Mexico.
41. Basil B. Zavoico—Recent Developments in the Oil Fields of U.S.S.R.
42. C. W. Tomlinson — Opposed Thrusts on Scissor Faults in Southern Oklahoma.
43. James H. Gardner—Correlation of Orogenic Trends in the Wichita, Arbuckle, and Ouachita Mountains, Oklahoma, and the Adjacent Portion of Texas.
44. George C. Branner—Sandstone Porosities in the Paleozoic Region of Arkansas.
45. Frank Rieber—Visual Presentation of Elastic Wave Patterns Under Various Structural Conditions.

Papers by Title

Frank A. Morgan—Oil Field Discoveries in California in Retrospect.

W. Armstrong Price—Tentative Glacial Time Scale for Gulf Coast Quaternary Formations.

W. W. Love, W. V. Howard—Experimental Evidence on Migration of Petroleum.

Albert W. Weeks—Miocene, Pliocene, and Pleistocene Formations in the Rio Grande Region, Starr and Hidalgo Counties, Texas.

R. Claire Coffin—Peculiarities in the Distribution of Oil and Gas in the Fields of the Rocky Mountain Region.

H. A. Ireland—The Use of Insoluble Residues for Correlation in Oklahoma.

Wallace Lee—Mississippian Limestone of Kansas.

R. W. Richards—Significance of Wet, Lean, and Dry Gas to Absence and Presence of Petroleum Deposits.

Frank A. Melton—Fractures in Hard Strata Above Oklahoma City Structure.

Lee C. Lamar—The South Burbank Pool.

Henry Schweer—Notes on the Northwest Extension of the Buried Arbuckle Mountains.

SOCIETY OF PETROLEUM GEOPHYSICISTS

Annual Meeting, March 19-21, 1936
Tulsa, Oklahoma

Thursday, March 19

Morning, Tulsa Hotel:
President B. B. Weatherby, chairman.

Business Meeting.

Address of Welcome.

1. Prof. B. Gutenberg—Some Theoretical Problems, Concerning the Seismic Method.

2. M. M. Slotnick—On Seismic Computations, II.

3. E. E. Blondeau—Earth Temperature Measurements Over Two Known Structures.

4. L. A. Burrows—Relation Between Firing Current and Performance in Seismograph Caps.

5. L. D. Leet—A Refraction and Reflection Fan to 187.8 KM.

Geophysicists Luncheon, Tulsa Hotel.

Afternoon, Mayo Hotel:
D. C. Barton, chairman.
1. President B. B. Weatherby—The

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Organization of an Effective Exploration Department.

2. D. C. Barton—The Crosbyton Anomaly.

3. C. E. Van Ostrand—Geothermal Methods of Estimating the Age of the Earth.

4. T. I. Harkins—Geophysical History of Darrow Salt Dome.

5. T. I. Harkins—Geophysical History of the Mykawa Oil Field.

6. J. H. Wilson—A Recommended Program for the Exploration of the Great Plains.

7. Frank Rieber—Controlled Directional Sensitivity—A Method of Adapting Reflection Methods to Complex Structures.

8. J. Brian Eby—Magnetic Survey of Southern Alabama.

Friday, March 20

Morning, Tulsa Hotel:

E. E. Rosaire, chairman.

1. Rev. J. B. Macelwane—Absolute and Relative Energy Relations in the Reflection and Refraction of Elastic Waves.

2. C. E. Van Ostrand—Geothermal Gradients in the Oriskany Sand in New York, Pennsylvania and West Virginia.

3. P. W. Klipsch—Some Aspects of Multiple Recording.

4. A. B. Bryan—True Ground Motion From Mechanical Seismograph Records.

5. Louis Statham—Electrical Earth Transients in Geophysical Prospecting.

6. F. J. G. Neumann—Torsion Balance Surveying in Inundated Areas.

7. J. M. Ide—Laboratory Determination of Elastic Constants.

8. L. Y. Faust—Optimum Geophone Spreads for Reflection Surveys.

Aftrenoon, Tulsa Hotel:

Eugene McDermott, chairman.

1. Barney Fisher—Folding in Wood County, Texas, and vicinity.

2. E. A. Eckhardt—Comparative Torsion Balance and Gravimeter Survey.

3. E. E. Rosaire—The Growth of Company Owned Operations in Geophysical Prospecting Since 1930.

4. J. C. Karcher—The Divining Rod.

5. Frederick A. Tompkins—Effect of Development Time and Developer Temperature on the Production of Photographic Seismograph Records.

6. C. A. Heiland—Notes on Reflections From Steeply Dipping Beds.

7. J. A. Sharpe—Simple Formulae of Three Dimentional Dip Shooting.

Saturday, March 21

Tulsa Hotel. Paul Weaver, chairman.

1. J. Barad—Significance of Some Fundamental Properties of Explosives With Special Reference to Geophysical Prospecting.

2. R. R. Thompson—The Seismic Electric Effect, and Its Use in Recording Seismic Waves.

3. M. M. Slotnick—A Simplified Circuit of the Seismic-Electric Method and Its Steady State Solution.

4. N. G. Johnson and G. H. Smith—Explosives for Seismic Prospecting.

5. L. D. Leet—True Horizontal Displacements Near a Five-Ton Blast.

6. C. C. Morgan—Geophysical Studies in Antarctica.

JAPAN DEEP TEST

Well in gas field to Drill to 10,000 feet

Nippon Oil Company is drilling near 8000 feet on an oil test scheduled to go to 10,000 feet in a gas field seven miles from Byoritsu, in the northern part of Taiwan (Formosa) island, according to a communication received by The OIL WEEKLY from an executive of the company.

Geological opinion of the company is that there is a good possibility of existence of an oil reservoir below the high pressure gas sands from which the field is producing.

Drilling progress on the test has been necessarily slow due to hard formations, caving formations and pressures. It spudded early in October, 1934, the communication states, and cemented 16-inch casing at 3465 feet. After drilling 2310 feet more hole, 11¾-inch casing was cemented at 5775 feet.

The 11¾-inch casing had been allowed to set five days when a blowout, presumably from between the two strings of casing, occurred, resulting in a fire which demolished rig and derrick. Resumption of operations was delayed until October, 1935, when new equipment from the United States arrived.

Oil possibilities of the southern portion of Taiwan, which is about 260 miles long, also have attracted attention of geologists of Nippon Oil Company. "In the southern portion of Taiwan," the letter reads, "we have some high pressure gas fields in which we are prospecting for oil."

Japan's deepest well, as of February 7, 1936, was a test drilled to 8450 feet in Echig Province, 400 miles from Tokyo, by Nippon Oil Company. It was abandoned without having encountered any commercial showings of oil.

MEXICO ACTIVITIES

Nation's output shows gain; 33 new oil wells

Production of crude oil in Mexico during 1935 amounted to 40,234,902 barrels, according to figures released by the petroleum bureau of the ministry of national economy. This represents an increase slightly in excess of 2,000,000 barrels over the amount of crude recovered in Mexico in 1934. Incidentally, January, 1936, produced 3,370,402 barrels, which is compared with 3,666,265 barrels in December, 1935.

Completions in Mexico in 1935 included 33 oil wells and two gas wells. Initial production of the oil wells aggregated 28,444 barrels; their settled production was approximately 800 barrels per day at the close of February, 1936.

Of the oil producers, nine were in Cacalilao Zone and eight each in El Plan and Panuco fields. One of the gas wells was Ohio Mexican Oil Company's Rancherias 3, rated initially by government engineers at 40 million cubic feet daily from 1989 feet. This well is located in the city of Camargo region, Tamaulipas, near the United States border. The other gas completion was in the General Bravo field, also in Tamaulipas.

The petroleum bureau of the ministry cites development in the Altamira region of Tamaulipas as one of the high spots of the Mexican oil industry activity during the past year, sustained daily production of 1000 barrels having been obtained from Altamira 30 at a depth of 510 meters. Altamira is near the northeastern shore of the Champayan Lagoon, near Tuna and the Monterrey-Tampico railway.

An increase in domestic consumption in Mexico is shown by the bureau's figures placing 1935 consumption of oil and oil products at 17,700,000 barrels as against 16,265,795 barrels in 1934. Gasoline consumption in 1935 amounted to 352,789,000 liters, as compared with 313,120,000 liters in 1934.

Exports of petroleum and its products in 1935, however, showed a decrease. Shipments in 1935 totaled 22,445,972 barrels. Shipments the year previous totaled 25,018,181 barrels. The ministry attributes the decline in export business to world conditions prevailing in 1935.

A decrease in refinery production also was noted in 1935, when the throughput was estimated at 35,875,084 barrels, a drop of approximately 1,456,000 barrels from the amount run in 1934. A four month's strike at the Tampico refinery of Huasteca Petroleum Company accounted for most of the decrease in refinery runs.

SOUTH OKLAHOMA

Ardmore, Okla.—Although interest was centered in the southern part of the state where two wildcat tests were near their objectives late in the week nothing had happened to prove or disprove their importance.

In the old Fox pool, in northwestern Carter County, Carter Oil Company et al's William 1, SW NE SW 27-2s-3w, discontinued drilling at 8004 feet and was being cleaned out about 15 feet off bottom probably to run casing.

The hole has now been redrilled to within 44 feet of the depth at which it blew out last October and flowed wild for almost a week at a gusher rate. At that time tools were stuck on bottom when drilling equipment broke down. After trying to soak loose with oil had failed, operators introduced acid into the drill pipe and annular space, pulled the tools 30 feet off bottom and the well blew out. For several weeks attempts were made to reestablish circulation and free the drill pipe. Finally a whipstock was set at 6089 feet and the hole redrilled.

Some difficulty has been experienced in keeping out of the old hole and drill pipe has been stuck in the new hole once.

Sixteen miles northwest of Marietta in northwestern Love County, Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, was bailing below 4000 feet and showing no response as the fluid was lowering rapidly. Total depth is 6914 feet, 251 feet above the point to which the old hole was drilled and at which point drill pipe was stuck. The new hole was started through a whipstock set at 5406 feet.

Oklahoma Extensions

MANSION AREA MOVE NORTH; JESSE POOL GOES EASTWARD

WEEKLY STAFF REPORT

TULSA.

TWO important wildcat tests which were nearing objectives in Southern Oklahoma were crowded from the picture late in the week when the "Mansion area" of the Oklahoma City pool was given a half-mile north extension to prove an area which had been doubtful, and the Jesse pool of southeastern Pontotoc County was given an east extension of one location when the east offset to the discovery well flowed at the rate of 424 barrels per hour.

Partial definition of the eastern limits of production in the Fitts pool in southeastern Pontotoc County was another feature of the week, although the test which yields this information is not yet a dry hole.

New work showed a 100 percent increase and completions increased more than 30 percent during the week in Oklahoma. Nineteen counties were represented in scout reports dealing with commencements. Pontotoc County with 11 first reports had only a slight lead over Seminole County with nine; Oklahoma and Osage Counties had seven each; Okmulgee County, five; Okfuskee County, four; Carter and Hughes Counties, three each; Comanche, Marshall, Logan, Pottawatomie, Creek and Muskogee Counties, two each; and Jackson, Kiowa, Jefferson, Johnston, and Noble Counties, one each.

A large number of the Oklahoma completions would be classified as small wells as shown by the fact that the number increased by about 30 percent while the total initial production was materially less. Of the 54 completions 32 were oil wells with combined initial production of 23,010 barrels compared to 63,841 barrels from 25 wells during the preceding week. Three were gas wells with combined initial volume of 16,000,000 cubic feet, 13 were dry holes and six were abandonments at which no drilling had been done. One of the oil wells and one gas well were considered wildcat completions. Total drilling footage increased to 121,376 feet of which 14,474 feet was in five wildcat completions and 486 feet in three old wells recompleted at greater than their original depths.

Open More Area

OKLAHOMA CITY VOTE TO PROVIDE LOCATIONS

Oklahoma City.—Phillips Petroleum Company and Black Gold Petroleum Company gave the Mansion area of the Oklahoma City pool a half-mile northward extension late in the week when Sawyer 1, NW SE NE NE 22-12n-3w, was drilled to 6450 feet. It started flowing at the rate of 100 barrels per hour and was shut in when sand started cutting out the connections.

Top of the Wilcox sand was logged at 6384 feet and 8⅝-inch casing set 10 feet below that point. There are several interesting points in connection with the drilling of this well. Operators withheld all information until Wilcox sand had been reached. Before that time it was generally believed that it was running too low structurally to have good chances for production. When the completion stage was reached the operators were notified that the location extends over several feet into property owned by the municipality. This occasioned several days of delay and an agreement was finally reached whereby the operators paid a cash bonus and a small percent of royalty to the city.

The test opens the area for development directly north of the discovery well in the extension and undoubtedly it will be quickly offset by a number of new operations.

Oklahoma City

The "Mansion Area" or north extension of the Oklahoma City pool continued to be one of the most interesting developments in the state and outside of Fitts it was the most important from the standpoint of large initial production. British American Oil Producing Company extended the area one-quarter mile to the north early in the week when its Hampton 1, SW NW NW SW 23-12n-3w, flowed 4310 barrels in 15 hours partly natural and partly on gas lift and then established a potential of 9068 barrels on gas lift.

Production is from Wilcox sand topped at 6389 feet and penetrated to 6489 feet, the total depth. The same operator's Piersol 5, C NL NW SW SW 23 12n-3w, yielded 2704 barrels of oil in three hours and 20 minutes along with gas at the rate of 24,000,000 cubic feet from Wilcox sand topped at 6346 feet and penetrated 69 feet. The nearby Piersol 4, C N½ NE SE SE 22-12n-3w, owned by the same operator, topped Checkerboard lime at 5390 feet, Oswego lime at 6135 feet, based the Pennsylvanian and topped the Wilcox sand at 6346 feet and was running 9⅝-inch casing with total depth at 6351 feet and nothing showing.

British American's Piersol 3, SE NE SE SE 22-12n-3w, originally completed January 8, 1936, for 5437 barrels natural in four hours from Wilcox sand at 6335 to 6390 feet, was reopened on March 11 to flow 9972 barrels in nine hours and 15 minutes. The same operator's Russell 1, SE NE SE 22-12n-3w, topped Checkerboard lime at 5400 feet and was drilling below 6250 feet; and Hays-Highland 1, C NL SE NE SE 22-12n-3w, topped that lime at 5405 feet and was drilling below 6040 feet.

Citizens of Oklahoma City are to vote March 24, on extension petitions which would make possible the starting of more than 60 tests within a few weeks after that date. All would be in high-class residential sections.

In the Britton district northwestern Oklahoma County, Sinclair Prairie Oil Company's Stites 1, SE SE SW 8-13n-3w, was drilled to 6630 feet, collapsed the pipe and set whipstock at 4885 feet. In new hole it logged top of the Sylvan shale at 6373 feet and was drilling ahead below 6400 feet. The same operator's Corbett 1, NE NW NE 17-13n-3w, topped Viola lime at 6395 feet, drilled to 6542 feet in Simpson dolomite and flowed 20 barrels of gasoline in 24 hours along with 3,000,000 cubic feet of gas. Gravity of the gasoline is 58 degrees at 48 degrees F.

Noble County

Nobel County had another interesting wildcat test under way late in the week when Continental Oil Company completed rigging up rotary tools for J. D. Pruitt 1, NW SE SW 19-20n-1w, approximately four miles east of the Lucien pool in the southern part of the county. Stanolind Oil & Gas Company's Shoop 1, NW SW SE 27-22n-2w, in the northern part of the Polo pool in western Noble County, was being watched principally for the geological information it would yield since generally it has been given up as a possibility for commercial production. This test was shut down some time ago at 4975 feet after finding nothing of importance in the Wilcox sand and the overlying Simpson dolomite. It was drilling below 5820 feet in limestone with nothing showing.

On the northwest edge of the old Tonkawa pool in southern Kay County Argo Oil & Gas Company's Myers 1, SW SW SW 20-25n-1w, had Mississippi chat from which it swabbed 35 barrels of oil and 15 barrels of water from 4218 to 4260 feet, topped the Mississippi lime at 4260 feet and had 2000 feet of water in the hole at 4290 feet. Going deeper operators encountered Wilcox sand at 4430 feet, drilled to 4467 feet with no apparent increase in oil and water.

10,166-Barrel Flow

SECOND JESSE POOL TEST; NEW PRORATION AT FITTS

Ada, Okla.—The big news of the week from the Franks-Graben area of Coal and Pontotoc Counties was the extension one location east in the Jesse pool when Continental Oil Company's Simpson 1, SW SW NE 12-1n-7e, east offset to the discovery well, flowed 1059 barrels in 2½ hours, or at the rate of 10,166 barrels in 24 hours, compared to the potential of 13,464 barrels for the discovery and only other producer in the pool.

Simpson 1 topped Bromide formation at 4160 feet, McLish at 4417 feet and was drilled to 4662 feet. Production increased from 370 to 424 barrels per hour in the last 15 feet of hole drilled. Some concern was felt when the well was tested and made only gas at the same depth at which the discovery well was completed.

Running Low

Slightly over a half-mile to the southwest of the discovery well The Texas Company seemed to have proven a fault as Simpson 1, SE NW NW 12-1n-7e, drilled below 4600 feet with nothing showing. Top of the Caney shale was found at 4370 feet. It apparently is running so low that the difference cannot be explained on the basis of sharp dip especially since it is known that the general area has been complexly folded and faulted.

Operators in the Fitts pool of southeastern Pontotoc County and representatives of the Oklahoma Corporation Commission have put into effect a new plan which divides all upper Simpson production into three zones. Zone 1 includes Sections 25, 26, 35 and 36-2n-6e and Sections 19, 30 and 31-2n-7e; Zone 2, Section 20, the west three-eighths of Section 21, Section 29, the west three-eighths of Section 28, Section 32, and the west three-eighths of Section 33, all in 2n-7e; and Zone 3, Section 22, the east five-eighths of Section 21, Section 27, the east five-eighths of Section 28, Section 34, and the east five-eighths of Section 33, all in 2n-7e.

Production during the period February 2 to March 2 and the formation pressures as of those two dates, along with the decline per 1000 barrels of production, were as follows:

Zone	Production 2/2 to 3/2/36	Pressure 2/2/36	Pressure 3/2/36	Decline Pounds	Decline Per 1000 Bbls. Prod.
1	723,747	1,327.45	1,300.10	27.35	.0377
2	335,255	1,465.72	1,429.00	36.72	.1095
3	127,642†	*	1,642.60†	*	*
Tot.	1,186,644	‡1,396.58	‡1,364.55	‡32.03	‡.0302

* New production in extreme eastern portion of area. No February figures available for purposes of comparison.
† Eliminated to make comparison possible.
‡ Average.

Northwest of Fitts

Gulf Oil Corporation and Ramsey Petroleum Corporation settled the question of production two and one-half miles northwest of the Fitts pool in south central Pontotoc County with the announcement that no further drilling would be done in Emry 1, SW SW NE 15-2n-6e. Early in the week this test encountered soft red granite at 6574 feet and hard granite at 6600 feet, at which depth it will be abandoned. It was 100 feet below contract depth when drilling was stopped. All horizon markers ran structurally low after the operators had penetrated an unexpected thickness of Atoka formation. Top of the Hunton lime was found at 5552 feet, Sylvan shale at 5846 feet, Viola lime at 5975 feet, Bromide formation at 6106 feet, the first Bromide sand at 6205 feet, and the second Bromide sand at 6285 feet. Top of the McLish formation was encountered at 6314 feet, approximately 2000 feet lower than it is found on the Fitts structure.

Productive limits were partially established to the east of the Fitts pool as a semi-wildcat test ran low and probably will be abandoned before testing to the McLish formation. This test is Patsy Oil & Gas Company's Magnuson 1, SW SE SE 23-2n-7e, in the area immediately east of the pool. It was shut down at 4785 feet after logging top of the Sylvan shale at 4760 feet.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Louis Sykes, Eaves 2, se se nw 5-2s-2w	*	2628
Shell Pet, McClure 40, cel ne sw 5-4s-3w	27	1149
COMANCHE COUNTY—		
McCasland et al, Smith 1-A, sw sw sw 12-2n-10w	*	2010
Phillips, Head 1, cn½ nw sw 29-4n-11w	*	300
CREEK COUNTY—		
Carpenter, Trent 1, nw sw se 21-17n-11e	*	2330
Smith et al, Blevens 2, sw nw se 25-14n-9e	30	2058
Kemp et al, Marrow 1, nw nw sw 1-17n-8e	*	3070
Crosbie, Repolge 2, nw se nw 10-17n-8e	lcn.	abd.
Tom Phillips, Riverbed 2, sw nw se 8-18n-7e	lcn.	abd.
McBride, Starr 2, se se ne 17-18n-7e (otd 2520)	8	2600
HASKELL COUNTY—		
Foltz, Bartlett 3, nw nw se 17-14n-17e	100	1896
HUGHES COUNTY—		
Halsey, Eastep 1-A, nw nw sw 11-8n-9e (pb 3412)	¶7	3454
Sinclair Prairie, Oliphant 4, se sw se 1-9n-8e	130	1713
Manahan Oil, Simmer 2, nw sw sw 12-9n-8e	537	1844
JACKSON COUNTY—		
Burke Royalty, Minor "A" 4, ne se ne 15-1n-20w	16	1457
LOGAN COUNTY—		
Gulf Oil Corp, Pfieffer 3, cs½ sw se 33-20n-2w	¶2-2578	5128
MARSHALL COUNTY—		
Leavell Coal Co., Brent 3, ne ne se 1-8s-5e	15	521
MUSKOGEE COUNTY—		
Guinn et al, Asbury 1-A, ne se nw 31-16n-15e	*	1556
Lightner, Franklin 1-A, sw nw sw 7-14n-16e	8	1550
Morrison, Sugar 1, sw sw ne 18-14n-16e	30	1722
NOBLE COUNTY—		
Stanolind, Pfieffer 2, cnl se sw 33-20n-2w	¶3-4550	5077
Stanolind, Schaefer 1, nw nw se 27-20n-2w	*	5254
Skelly, Hannah 4, se se sw 22-22n-2w	lcn.	abd.
Twin State Oil, DeVort 5, nw ne nw 27-22n-2w	939	4920
OKFUSKEE COUNTY—		
Manahan & Grisso, Dalton 1, se se se 36-10n-8e	552	1740
Burke Greis, Scott 2, cse nw 20-10n-10e	¶5	2943
Hicks, Lair 1, se nw se 26-10n-10e	lcn.	abd.
Lair 2, ne nw se 26-10n-10e	lcn.	abd.
Steckell, Ditzler 3, sw ne ne 2-10n-11e	*	1670
Cusack, Dill 1, ne ne nw 11-11n-8e	*	1250
Ralvern Oil, Camp 2, cw½ sw nw 12-11n-8e	40	3916
OKLAHOMA COUNTY—		
Sinclair & Slick-Urschel, Heavey 1, ne ne nw 19-13n-3w	*	6970
OKMULGEE COUNTY—		
Steckell, Hawkins 10, se nw se 6-11n-12e	*	1554
Edwards, Monday 2, cse ne 33-15n-14e	¶4	1700
Klingensmith, Farr 13, cwl ne nw 35-16n-11e	55	1855
OSAGE COUNTY—		
Sinclair Prairie 12, nw nw sw 30-25n-8e (pb 2444)	14	2447
PAYNE COUNTY—		
Murphy & Graham, Hauffman 1, sw se nw 34-18n-5e	lcn.	abd.
PONTOTOC COUNTY—		
Moore, Akers 5, ne se ne 36-2n-6e (otd 4281) (pb 4424)	¶2-2022	4499
Manahan et al, Wanger 1, se sw nw 17-2n-7e	34	1758
Magnolia Pet, Burris 3, nw sw nw 27-2n-7e	¶2¼-3328	4285
Carter Oil, Smith 8, se nw sw 28-2n-7e	¶1¾-2355	4356
Moore, Woodroof 3-A, ne nw se 29-2n-7e (otd 4164)	¶2¼-3625	4382
Sunray Oil, Rickey 11, nw se ne 12-4n-7e	100	1998
Sulmac, Hart 1, se nw nw 27-5n-6e	20	2680
POTTAWATOMIE COUNTY—		
Huckleberry, Gray 3, sw sw sw 25-6n-4e	40	2944
Jones, Cummings 1, sw ne se 36-8n-4e (pb 3975)	15	4380
SEMINOLE COUNTY—		
Sinclair Prairie, Davis "B" 3, sw ne sw 7-6n-8e	49	2783
Fleetborn, Stump 5, se se sw 27-8n-8e	500	4194
Campbell, Parks 1, se sw se 8-9n-7e	320	3445
Felmlee & Michaelson, Bilford 1, se nw ne 15-9n-8e	*	1680
Carter et al, Harber 1, cw½ sw se 2-10n-6e	480	4162
Carter Oil, Scott 3, cw½ se sw 11-10n-6e	487	4197
STEPHENS COUNTY—		
Magnolia, Blalock 3, nw nw nw 14-2s-5w (pb 921)	6	926
Raizen Bros, Tomlin 1, se ne nw 15-3s-5w	*	1620

*Failures; †Junked; ¶Million cu. ft. gas.

REFUND TAXES

Oklahoma City.—Judge Edgar S Vaught late in the week directed the Oklahoma Tax Commission to refund to Stanolind Crude Oil Purchasing Company $10,000 in corporation license taxes after attorneys for the commission are reported to have agreed that the tax was not legal. Stanolind paid the tax under protest for the year ending June 30, 1933, claiming exemption due to the interstate nature of its business. Several other purchasing companies will make claims for refunds on this basis.

LEASE AUCTION

Five Civilized Tribes to offer 17,454 acres

Muskogee, Okla.—Restricted Indian land in southern Oklahoma is due for another lease play March 24 when the Five Civilized Tribes will auction for oil and gas lease 17,454.71 acres consisting of 211 tracts in 20 counties.

Jefferson County will lead the list of 20 counties with an offering of 42 tracts comprising 3469.51 acres; Carter County will contribute 19 tracts comprising 1501.25 acres; Love County, 17 tracts comprising 1481.99 acres; Marshall County, six tracts comprising 639.32 acres; and Stephens County, eight tracts comprising 515.70 acres. These five southern counties will contribute 92 tracts comprising 7607.77 acres or approximately 44 percent of the total offering.

The number of tracts and the acreage in each county are shown in the following tabulation:

County—	No. of Tracts	Acreage
Atoka	26	2,033.85
Carter	19	1,501.25
Coal	5	201.31
Creek	11	673.46
Garvin	9	840.00
Grady	3	150.84
Hughes	17	1,624.90
Jefferson	42	3,469.51
Love	17	1,481.99
Marshall	6	639.32
McClain	4	270.00
McIntosh	8	730.67
McCurtain	2	230.00
Okfuskee	12	1,127.50
Okmulgee	4	312.50
Pittsburgh	4	581.91
Pontotoc	6	610.00
Seminole	5	220.00
Stephens	8	515.70
Wagoner	3	240.00
Totals	211	17,454.71

ASK RECLASSIFICATION

Oklahoma City.—Operators in the Stillwater pool of central Payne County have asked that the pool be reclassified from wildcat or Class D to Class C and a hearing has been set by the Oklahoma Corporation Commission, March 20. If Class C rating is granted an allowable of 1000 barrels per day will be asked for the four producing wells, such amount to be allocated to the wells on the basis of new potential taken through 2½-inch tubing. The application was signed by Gulf Oil Corporation, Stanolind Oil & Gas Company, Amerada Petroleum Corporation and H. F. Wilcox Oil & Gas Company, owners of the community block. Development has been on 10-acre centers.

A similar change is sought by the operators in the old Billings pool in northwestern Noble County where Phillips Petroleum Company and Shell Petroleum Corporation recently completed a gusher well in the Wilcox sand. Hearing has been set on the same date for both petitions.

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New Russell Pool

EXTENSION AND DEEPER SAND IN KANSAS FIELDS

WEEKLY STAFF REPORT

Wichita, Kansas.—The finding of a new pool in Russell County, extension of the Graber pool in McPherson County and the discovery of another producing horizon in the Bemis pool of northeastern Ellis County combined with reports of several new exploratory operations to make the past week a very active one for Kansas fields. Probably the high point was the finding of Wilcox sand oil one-half mile southeast of production in the Geneseo pool in northern Rice County, the first time that a showing which indicates commercial production in that horizon has been found in the county. Other high lights of the week were the extensions of the Boxberger and Berrick pools in Russell County.

New work showed an increase of more than 28 percent when scouts made 41 first reports and reported 32 completions, compared to 32 first reports and 30 completions during the preceding week. Russell County again led the state in increased activity with eight first reports; Barton and Reno Counties were a close second with six each; Rice and Sumner Counties had four each; Woodson and Ellis Counties, two each; and Grant, Stevens, Stafford, Greenwood, Butler, Ellsworth, Harvey and McPherson Counties, one each. Included in the completion list were 25 oil wells, two of which were classified as wildcats, and seven dry holes. Initial production from the 25 new wells was 22,277 barrels. Footage for wildcat development amounted to 12,789 feet and the remaining 30 completions brought the total for the week to 96,569 feet.

Russell County

Empire Oil and Refining Company's Crawford 2, SW SW SW 2-14s-15w, appears to have given the Sullivan pool of southwestern Russell County its second largest producer with an initial yield of 1029 barrels in 16½ hours from Pennsylvanian Basal conglomerate at 3293 feet, the total depth. This pool now produces from Topeka and Oswald limes as well as the conglomerate. The largest well previously in the pool was Hartman and Blair's Rouback 1, SE SE NW 2-14s-15w, completed for 4067 barrels in Topeka lime at 2780 to 2799 feet. Darby Petroleum Corporation's Dumler 1, NW NW NW 11-14s-15w, in the south part of the pool, topped the conglomerate at 3289 feet and had 2900 feet of oil in the hole at 3291 feet after standing over night.

Darby Petroleum Corporation's Steinert 1, SW SW SW 25-15s-15w, north offset to the discovery well in the Boxberger pool of southwestern Russell County, pumped 250 barrels in four hours from Oswald lime at 3131 feet but did not finish the potential gauge due to mechanical difficulties. It was being retubed for a continuation of the initial gauge. Skelly Oil Company's Swartzkopft 1, SE SE SE 26-15s-15w, northwest diagonal offset to the discovery well, set seven-inch casing in Oswald lime at 3142 feet and was being standardized.

Russell County was looking forward to the completion of a test which may mean its thirty-second pool as S. A. Murphy and Phillips Petroleum Company prepared to run casing to test Anschutz 1, SW SW SW 10-15s-13w, slightly over two miles northwest of production in the Sellens pool and about the same distance southeast of the Berrick pool in the southern part of the county. Arbuckle lime was penetrated from 3305 to 3314 feet and oil was coming into the hole at the rate of two and one-half bailers per hour with 35 feet of cavings interrupting the flow. The nearby Eichman pool had one completion and another ready for completion during the week. W. I. Southern, Incorporated's William Berry 1, SE SE NE 33-15s-13w, penetrated Arbuckle lime from 3333½ to 3335 feet, made 391 barrels natural and was given a potential of 766 barrels after being treated with 1000 gallons of acid. The same operator's W. H. Berrick 1, NW NE NE 6-15s-13w, east offset to the discovery well in the Berrick pool, made 50 barrels natural from Topeka lime at 2838 feet and was treated with acid. The discovery well, Coralena Oil Company's Berrick 1, NE NW NE 6-15s-13w, swabbed 130 barrels initially. Reports as to the source of oil both in the discovery well and in its east offset are confusing. It apparently, however, is from Pennsylvanian Basal Conglomerate.

McPherson County

The Graber pool of southeastern McPherson County was again extended when Continental Oil Company obtained 2800 feet of high gravity oil from Hunton lime one-half mile north of production. Total depth later in the week was 3291 feet with the hole standing full of oil. Top of the Hunton was not reported. Location is Hetzke 1, SW NE NE 29-21s-1w. As a result of the initial performance of this test Marathon Oil Company started work immediately at J. H. Decker 1, SW SE SE 20-21s-1w, one-quarter mile north of Hetzke 1. Location was staked on Friday, March 13, and the test spudded two days later to prevent expiration of the lease.

A discovery of more than usual importance was made in the Bemis pool of northeastern Ellis County when Margay Oil Company et al's Bemis 1-B (2), SW SW SW 15-11s-17w, had 2800 feet of oil in the hole in 30 minutes with the bit only one foot in Arbuckle lime at 3381 feet. It is an east offset to the discovery well which made 514 barrels natural from Topeka lime at 2830 to 3040 feet. Bemis 1-B had only a showing of oil in the Topeka, had nothing in Oswald lime and

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Mid-Continent, Matzek 3, se sw se 25-19s-11w	2288	3287
Gulf Oil Corp., Wendell 2, nw ne ne 36-19s-11w	1241	3300
Mid-Continent, Schmidt 2, sw se sw 36-19s-11w	1920	3292
Phillips, Matzek 1, ne nw ne 36-19s-11w	1464	3287
COFFEY COUNTY—		
Johnson et al, Vanocker 4, ne ne ne 12-23s-14e	*	1563
COWLEY COUNTY—		
Wakefield, Davis 1, nw nw se 2-31s-4e	134	2984
Winkler-Koch et al, Harlan 1-B, cs½ nw ne 13-31s-7e	*	2751
Alma Pet, Lowe 3, nw se se 6-35s-3e	20	3510
GREENWOOD COUNTY—		
Marathon, Pixlee 6, sw sw nw 8-22s-10e	100	2333
Mossman et al, Wilson 1, nw se se 1-24s-11e	*	1869
Mohawk Oil, Edgar 1-A, ne ne sw 2-28s-8e	35	2548
MARION COUNTY—		
Aladdin Pet, Remple 3, se se se 12-19s-2e	250	2841
McPHERSON COUNTY—		
McBride, Whitright 4, cs½ n½ sw 30-19s-1w	265	2979
RENO COUNTY—		
Olson & Shell, Rudical 3, cse sw 24-23s-4w	220	3362
Shell, Brown 1, cse nw 10-24s-4w	1544	3388
Shell, Denton 2, cnw ne 16-24s-4w	1039	3377
Shell, Reece 2, cnl sw 11-26s-9w	5455	4152
RICE COUNTY—		
Hinkle, Shoerig 1, ne ne se 21-18s-10w	*	3282
Ramsey Pet, Hilton "A" 2, sw se sw 6-20s-9w	727	3291
Lario O&G, Foote 3, ne sw ne 7-20s-9w	778	3279
Sinclair Prairie, Sharpe 4, sw ne ne 7-20s-9w	996	3272
ROOKS COUNTY—		
Gillespie & Son, Low 1, ne ne nw 12-6s-18w	306	3150
Phillips Pet, Toepffer 1, cse se 36-8s-18w (pb 3420)	*	3474
RUSSELL COUNTY—		
Darby Pet, Rexroot 1, sw se sw 30-14s-14w	*	3215
Hartman & Blair, Harbough 1, ne ne sw 25-14s-15w	788	2950
Phillips Pet, Hall 1, ne se sw 36-14s-15w	236	3022
SEDGWICK COUNTY—		
Dickey Oil, Nolan 7, ne se ne 20-28s-1e	345	3120
STAFFORD COUNTY—		
Stanolind, Komarck 2, sw se se 30-22s-11w	1278	3550
SUMNER COUNTY—		
Shell, Emerich 15, sw sw ne 14-32s-2e	623	2872
TREGO COUNTY—		
Vickers et al, Secor 1, nw nw nw..	*	4340
WOODSON COUNTY—		
Saco Oil, Klick 3, se sw sw 20-25s-14e	125	1429
Sheedy et al, Wernet 2, sw sw sw 21-25s-14e (pb 1460)	100	1500

*Failures; †Junked; ¶Million cu. ft. gas.

it looked for a while as though it definitely shut off production to the east. This part of the county is quite active and several interesting wildcat tests are under way. Others are expected to be started soon.

Rice County

Continental Oil Company made what may be one of the most important finds in Rice County when Root 1, NW NE NE 36-18s-8w, one-half mile southeast of production in the Geneseo pool in the northern part of the county, cored Wilcox sand from 3153 to 3177 feet and recovered a full section of saturated sand. Seven-inch casing was set on top of the sand, the test has been standardized and is ready to drill the plugs. The Geneseo pool, discovered in May, 1934, heretofore has had nothing but Arbuckle (siliceous) lime production which Continental discovered at Lansing 1, NW NW SE 25-18s-8w. This is the first time that a find of this apparent importance has been found in the Simpson Group in Rice County. One and three-quarter miles north and slightly west of the pool Continental Oil Company and Empire Oil and Refining Company's Nickle 1, NE SW SW 13-18s-8w, penetrated Arbuckle (siliceous) lime from 3210 to 3214 feet and had 2500 feet of oil in the hole in two hours. It probably extends the pool rather than discovers a new accumulation.

In the Stumps pool of northwestern Rice County, Slick, Pryor and Lockhart et al's Moran 2, NW SW NW 4-18s-10w, pumped 738 barrels of oil natural from Arbuckle (siliceous) lime drilled to 3271 feet.

The Texas Company has purchased from Edwin N. Carlson, S. A. Yarnell and Lawrence Spencer the Frank Bloomer lease which is the N½ NE 36-17s-11w and is the 80-acre tract offsetting to the east the partnership's Bloomer 1, NE NE NW 36-17s-11w, completed last month for 470 barrels initially from Arbuckle (siliceous) lime topped at 3257 feet and drilled to 3273 feet. It established a new pool in northeastern Barton County. Recently the partnership sold the S½ SE 25-17s-11w, 80 acres offsetting the discovery well to the northeast to National Refining Company for $25,000 cash and $35,000 in oil.

GAS RATE DECISION

Austin. Texas.—A suit by the Community Natural Gas Company, seeking to set aside an order of the Texas Railroad Commission fixing a rate of 61 cents for Wichita Falls, was decided last week by a jury in the Fifty-Third District Court on special issues, the jury finding that the sum of $1,036,587.60 used as an undepreciated rate basis by the railroad commission was too low and that the basis should have been $1,250,000.

The only issue in favor of the commission was the finding that seven percent was a reasonable rate of return on the investment.

The City of Wichita Falls originally fixed the rate at 45 cents in an ordinance from which the gas company appealed to the railroad commission.

Outpost Produces

SHORTENS LINK BETWEEN SAYRE AND SCARBOROUGH

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

Midland, Texas.—The two-mile interval of unexplored territory between the Sayre and Scarborough fields, Winkler County's most important oil producing areas from sandy-lime horizon, was halved the past week by the completion of a flowing producer on a direct line between production. Humble Oil & Refining Company and Tide Water Oil Company's J. B. Walton 1-D, SEc Section 20, Block 74, PSL Survey, virtually linked the two sources of high gravity oil production with an initial flow of 302 barrels in 13½ hours after a 220-quart nitro shot at 2772-2930 feet. Drilling was halted at 23 feet below sea level, with three pay zones logged below first oil saturation at 2760 feet. Top of lime was recorded at 2595 feet, or 312 feet above sea level, and first Yates sand at 2720 feet. Sun Oil Company is starting a south offset, while Magnolia Petroleum Company will be required to match both on the east.

Magnolia Petroleum Company's J. B. Walton 3, NWc NE¼ Section 19, Block 74, PSL Survey, situated on the southwest edge of the Scarborough field, has been allotted a new potential of 447 barrels after cleaning out broken sandy-lime zone at 2884-3063 feet. It was originally completed in September, 1934, as a gasser with light spray of oil. The hole is bottomed at a sub-sea depth of 139 feet, and has not been shot, or treated with acid.

Potential rating of 595 barrels of oil and 2,500,000 feet of gas was earned by Bert Fields, A. W. Cherry and Wilson Keys' Central State Bank (Abilene) 1, NWc NE¼ Section 25, Block 26, PSL Survey, located two miles south south by east of the Sayre field and one mile northwest of nearest production in the Kermit area. Sandy-lime section at 2720-2878 feet was shot with 158 quarts of nitro, or one-quart per foot of formation. Eventual linking of this well with the Sayre field is not a remote possibility. Continental Oil Company farmed out the 160-acre drilling site, retaining one-sixteenth overriding royalty interest and mineral rights below 4000 feet. Bert Fields, Dallas contractor, has skidded rig to drill a north offset for Sinclair Prairie Oil Company.

The Texas Company's L. Daugherty 1, SWc Section 2, Block 74, PSL Survey, about one mile west of production in the Scarborough field, is showing for a 20-barrel pumper after a 90-quart nitro shot at 3040-3220 feet. It was drilled to 3297 feet, or 397 feet sub-sea, and plugged back because of water to 3235 feet. Sun Oil Company's Keystone 1, SEc Section 3, Block 77, PSL Survey, located about midway the two-mile interval between the Scarborough and Keystone fields, is checking low on structure. Top of brown lime was logged at 2533 feet, or 426 feet above sea level, and late last week drilling was underway below 3100 feet. No gas was reported in the upper section of the lime. Gulf Oil Corporation's E. R. Hill 1, SWc SE¼, Section 9, Block B-11, PSL Survey, south central Winkler County wildcat, was drilling in dry lime at 3960 feet, according to late reports, and is checking about 100 feet lower on structure than Sid Richardson Oils, Incorporated's discovery well on the Hill tract. The former has fulfilled contract depth, and will abandon when water is found in the lime.

Absence of oil and gas production in the upper section of the lime encountered the past week by W. T. Walsh, Harry Adams Corporation et al's Averitt 1, first test for the Seminole structure, Gaines County, proved disappointing to the many interests following the progress on this highly rated geophysical prospect. Drilling was underway below 4750 feet, according to late reports, or about 150 feet in the main body of lime. Numerous high pressure gas zones found immedi-

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY: (McCamey Field)—		
A. W. Cherry & W. Keys, Hughes-Conoco 1	*	2410
ECTOR COUNTY: (Goldsmith Field)—		
W. H. Dunning, Jr. et al, C. Scharbauer 1,	¶15 & 200	4175
GAINES COUNTY—		
E. M. Wahlenmaier-York & Harper, Inc., E. H. Jones-Humble 1	*	5224
GLASSCOCK COUNTY—		
Conoco-Group 1 Oil Corp., Settles 3-S	144	1266
HOWARD COUNTY—		
Conoco-Group 1 Oil Corp., Settles 14-A	1440	2391
Sinclair Prairie, Denman 4-B	741	2820
Dodge 29	525	2825
Dodge 30	490	2836
JONES COUNTY—		
N. H. Martin & Son, H. Dorsey 1-D.	112	2069
UPTON COUNTY: (McCamey Field)—		
Cordova-Union Oil Corp., fee 1	10	2176
Indian T. I. Oil Co., Cordova 1-A	15	2135
J. W. Ellis et al, J. W. Robbins 1-A	640	2114
UPTON COUNTY: (Wildcat)—		
John W. Emch et al, A. E. Gordon 1.	*	3740
WINKLER COUNTY: (Halley Pool)—		
Emperor Oil Co., Halley-Conoco 1	50	2948
WINKLER COUNTY: (Kermit Field)—		
Bert Fields, A. W. Cherry & W. Keys, Abilene Central Bank 1	595	2878
WINKLER COUNTY: (Sayre Field)—		
Magnolia, J. B. Walton 15	378	2943
Mid-Continent Pet. Corp., Howe 7-B	1645	2980
Sayre Oil Co., Daugherty 4	500	3015
Howe 7-A	1527	2968
TP Coal & Oil Co., Daugherty 10	1098	2935

*Failures; †Junked; ¶Million cu. ft. gas.

ately above and below the Yates sand greatly retarded drilling. It has an elevation of 3322 feet.

In Northwestern Gaines County, E. M. Wahlenmaier and York & Harper, Inc.'s E. H. Jones-Humble 1, C SW SW Section 414, Block G, CCSD & RGNG Survey, measured up at 5224½ feet to abandon in extremely hard and dry lime. Operations have been started by Landreth Production Corporation on W. H. Kirk 1, SWc Section 22, Block A-21, PSL Survey, centering on a wildcat block in the south portion of the county. W. L. Todd, Incorporated, contractor, is using spudder to break through the surface rock, then will erect rotary. Ten majors and independents purchased lease protection

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
J. W. Akin, Tr., et. al, McCrory 1, sec 70	*	1500
L. T. Burns et al, M. Kolb 6, blk 116	100	1245
Turbeville 18, blk 152	50	1524
McCrory-Wilson 1-B, sec 116	*	1550
Conoco, W. J. Logan 18-A	48	1145
Conoco & O. P. Darsey, W. C. Jones 1	*	1876
W. B. Hamilton et al, J. A. Bell 1, sec 14	*	1111
W. L. Hawkins et al, W. R. Pace 6, blk 112	15	1204
C. B. Long et al, J. H. Turbeville 6, blk 156	65	1523
Magee & Stipe, B. Garrett 5	*	712
Bo Minninch et al, N. I. Andrews 2, blk 5	*	1080
Perkins-Cullum Oil Co., E. T. Brown 1, sec 2	*	1614
Regal Oil Co., McCrory-Wilson 1, sec 1	75	1619
Underwood Drlg. Co., Ward Bros. 2-D, sec 1374	*	1040
COOKE COUNTY—		
F. W. Merrick, Inc., Andress 1	15	845
Knabe 25, blk 6	8	800
Mudge Oil Co., Johnson 6	35	1107
The Texas Co., Walterscheid 8	10	751
JACK COUNTY—		
Iron Mt. Oil Co., J. W. Birdwell 1	¶6½-433	3002
MONTAGUE COUNTY—		
Boardman Bros., L. Keck 1	*	897
The Texas Co., Cunningham 8-A	15	898
Frank L. Vlach et al, R. Adams 1	*	2152
Westqumo Oil Co., J. K. Willett 1, blk 3	*	1110
WICHITA COUNTY—		
G. W. Cooper et al, Waggoner Bros. 34, blk 13	*	1452
Jennings Drlg. Co., G. Jennings 1-A, sec 8	12	805
W. B. Omohundro et al, S. P. Gibson 1, blk 302	155	1844
The Texas Co., Waggoner Est. 421, sec 148	10	1599
Waggoner Est. 423, sec 148	27	1108
WILBARGER COUNTY—		
Fain-McGaha Oil Corp., Wagoner Est. 4-Y, sec 43	100	2421
G. I. Oil Co., Waggoner Est. 7-I, sec 40	30	1868
YOUNG COUNTY—		
Alexander et al, W. B. Howard 3, sec 3401	200	904
F. M. Gates et al, Grant 1, sec 2	*	550
B. C. Gilmore et al, A. Williams 1	*	619
Nash & Windfohr, B. Long 1, sec 3407	50	2811
C. D. Neff & Singleton, W. A. Dennis 1	†	2100
W. E. Nunnley et al, Sullivan 1, sec 1918	*	552
E. C. Reed et al, Pool 2-B, sec 3404	*	575
A. H. & S. P. Schmidtt, R. O. Andrews 6, sec 1399	25	930
T. G. Shaw Oil Corp., Marshall 11, sec 3401	10	902
Underwood & Campbell, Campbell 10-A, sec 1376	30	916
Wooten & Wilson, A. C. Casey 1, sec 1486	*	614

*Failures; †Junked; ¶Million cu. ft. gas.

around this prospect at prices ranging from $25 to $35 cash per acre.

Averaging about one barrel of oil per hour on extended bailing test, Cascade Petroleum Company and Honolulu Oil Corporation's L. P. Bennett 1, southeastern Yoakum County wildcat, appears to be exhausting the head of salt and sulphur water encountered when the hole was deepened to 5112 feet, or 1555 feet below sea level. Oil production was found at 5096 feet (corrected measurement). Owners will likely carry out their previously announced plans of treating the lime with acid. Production test on this isolated wildcat was deferred from last September until late in February in order to clear titles. During this interim a major lease and royalty play took place in the north portion of the Permian Basin in anticipation of this outpost making a prolific well. The presence of water in close proximity to the top of the oil pay was not anticipated, and operators are divided in opinion as to whether the location is near the edge of the structure, or if the saturated lime zone is unusually thin in this section of the Basin.

Progress on Floyd C. Dodson et al's Texas American Syndicate 1, projected Ordovician lime test, or 6000 feet, for the Leoncita-Hovey dome, northern Brewster County, has been retarded by boulders in drilling to 450 feet. Small shots of nitroglycerin are used in blasting the rock formation that deflects the cable tools. The original hole was junked at 1715 feet, and the derrick skidded 80 feet southwest. W. B. Hinton, Lockhart, Texas, contractor, is drilling the second test, and will alternate between cable tools and rotary, depending upon the nature of the formation. This dome has been rated as a favorable prospect for deep production by geologists for more than 10 years. Title difficulties prevented leasing of the area. Dodson et al assisted in curing titles in 1934. A number of majors have acquired protection leases from Dodson et al. Frank T Pickrell, Fort Worth, former head of Texon Oil & Land Company and Group No. 1 Oil Corporation, discoverers of the Big Lake field and later the first Ordovician production in West Texas, is trustee for a group that has acquired lease on 2120 acres, including a 40-acre offset, from Dodson et al.

Stanolind Oil & Gas Company's J. E. Witcher 1, C NE NE Section 24, Block 43, T&P Ry. Survey, T-2-S, south offset to the discovery well of the Foster pool, Ector County, gauged 400 barrels oil in 12 hours after a string shot of 420 quarts of nitro in lime between 4092 feet and 4198 feet. The hole was plugged back from water at 4230 feet to 4211 feet. Barnsdall Oil Company's Foster 2, an east offset, was drilling below 3750 feet, according to late reports, and checking about 15 feet higher on structure. Witcher 1 was credited with logging first oil pay about 87 feet lower structurally than the discovery well. Stanolind Oil & Gas Company is preparing to test its acreage to the northwest, having made location for E. F. Cowden 1-B, C NE NE Section 14, Block 43.

Preliminary gauge given W. H. Dunning, Jr. et al's Clarence Scharbauer 1, intermediate location for the Goldsmith field, Ector County, rates the flow at 200 barrels of oil and 15 million cubic feet of gas daily after 120-quart nitro shot in lime at 4145-4175 feet. A larger producer was anticipated. Gulf Production Company has moved in rig to drill Goldsmith-Scharbauer 6, a south offset to the new producer, and Landreth Production Corporation et al are preparing to start an east offset.

Phillips Petroleum Company is nearing completion on the assembly of a 4500-acre block, centering upon the northwest corner of Ector County, with a portion of the block extending into Andrews and Winkler Counties.

SEMINOLE FAILURE

West Texas prospect Dry in Permian

San Angelo.—Elimination of the Seminole geophysical prospect in Gaines County as a potential producer and the completion of another prolific oil well in the Waddell field, Crane County, provided the outstanding developments in West Texas the past week.

North portion of the Waddell area upheld its record of furnishing the largest producers in the district, excepting those in the Yates field, when Magnolia Petroleum Company's Edwards 4, SWC NW SW, Section 2, Block B-23, PSL Survey, responded to acid treatment with an average flow of 436 barrels pipe line oil per hour on four-hour potential gauge.

Before using 5000 gallons of acid in the three thin layers of saturated lime logged between 3542 and 3559 feet, the well flowed 85 barrels per hour natural.

Appearance of sulphur water in lime at 4802-4804 feet in W. T. Walsh and Harry Adams Corporation's Averitt 1, located two miles northwest of Seminole, worked contrary to the supporting geophysical structure. Cash bonuses of $100 per acre were paid for leases in and near the townsite within the past year on the strength of the favorable geophysical picture.

Numbers of high pressure gas showings encountered above and below the Yates sand horizon were taken as a favorable omen for oil production in the Permian lime. The owners will likely plug back to make a gasser, thereby holding their lease to await further developments.

TAKINGS RESTRICTED

Phillips to buy only 21 barrels per well

Pampa, Texas.—Restriction of crude purchases by the Phillips Petroleum Company to a maximum of 21 barrels daily per well on its outside lease connections in the Texas Panhandle has been deferred until April 1. The company announced earlier in the month that this means of reducing its crude runs would be put into effect March 15 after having been unsuccessful in obtaining relief from surplus runs through the Texas Railroad Commission. The district is prorated to 61,300 barrels daily. A reduction may be imposed by the commission at the conclusion of its regular monthly statewide proration hearing late this week, as other buyers in the Panhandle are unwilling to absorb the 2000-barrel excess claimed by the Phillips Petroleum Company.

A string of three-inch casing is sched-

uled to be used by the Chicken Creek Oil Company's Ledrick 1, Section 55, Block C, G. & M. Survey, Roberts County, to shut off water and attempt to deepen. This wildcat began operations in 1931, and has made use of cable and rotary rigs in drilling to 6365 feet. Seven strings of pipe have been used, ranging from 20-inch to 5 3/16-inch. In Randall County, Oxnard, English et al's H. T. Oxnard 1, Section 85, Block 2, A. B. & M. Survey, encountered a slight show of oil and gas at 5718 feet, and is now fishing bit at 5720 feet.

Phillips Petroleum Company's G. W. Porter 1, C NE SW Section 35, Block A-8, H&GN Survey, projected Ordovician lime test for Wheeler County, was drilling below 1900 feet late last week. Rogers et al's T. Timberlake 1, NWc NE NW Section 86, Block 13, H&GN Ry. Survey, Wheeler County, is reported to be making preparations to lower five-inch pipe to cut off water at 4012-4042 feet and deepen. Both are on wildcat blocks situated north of the granite ridge.

WELLS IN TEXAS

23,583 flow and 36,484 are pumping in January

Austin.—Texas production totaled 32,142,906 barrels during the month of January, an average of 1,036,868 barrels per day. This information was contained in a statement issued last week by Judge Olin Culberson, director of the Bureau of Oil Accounting for the Texas Railroad Commission. Total production, however, was approximately two percent less than the total allowable of 32,798,005 barrels.

The report showed that there are 2,088,980 acres of productive oil leases in Texas, which are divided into 12,168 tracts. In this connection it should be noted that the base for these figures is the entire lease on which the wells are located, as reported by the operators, and in many cases includes acreage extending beyond the productive limits of a field.

The report lists 60,067 producing wells in Texas, of which 23,583 are flowing and 36,484 are pumping wells.

The report is probably the most authentic data on actual production that is available, since it is derived from reports filed by the individual producers, showing how much oil is run from their lease. No estimate is made of the amount of hot oil that might be run from a given property.

S. S. PARKER, vice president and general manager of Doheny-Stone Drill Company of Texas, Houston, is in California on company business.

WILLIAM McGINLEY, 56, president of The McGinley Corporation, Fort Worth, was fatally injured March 11 in an automobile accident near Pecos, Texas, while making a routine tour of the oil fields in West Texas and New Mexico. He was one of the pioneer operators in the South Vernon district, Wilbarger County, Texas, and had been active in the Rio Grande valley. Survivors include his widow, three sons and two daughters. Funeral services were held in Los Angeles.

Talco Being Tested

PRODUCTION WILL BRING FAULT ZONE DRILLING

WEEKLY STAFF REPORT

Tyler.—Production test for R. Peveto, Housh and Thompson, Inc.'s Carr 1, located on the Talco faulted structure in northwestern Titus County, was underway late last week, with free oil showing in pits after running liner and lowering tubing.

This wildcat showed oil in the paluxy or upper Trinity series when drilled to 4208 feet early last month. In the event a prolific well is developed from the Trinity sand a major development program will be launched in the immediate area and numerous wildcats will be started on other known structures along the Mexia fault zone to the east and particularly to the west and southwest.

Importance of the Trinity series as a potential source of production in the Woodbine sand belt of East Texas was grasped by the rank and file of operators on February 7 when R. L. (Bob) Peveto and Housh & Thompson, Incorporated's C. M. Carr 1, located on the Talco structure in Northwestern Titus County, responded to drill stem test at 4166-4208 feet by filling 800 feet with oil in 23 minutes. This showing proved ample to touch off a major lease and royalty play for the full length of the Mexia fault zone.

Eight-inch pipe was cemented in Carr 1 at 4166 feet, and operations were suspended until late last week to iron out title difficulties. Top of the Paluxy sand, or upper section of the Trinity series, has been tentatively called at 4190 feet, and the hole was drilled to 4208 feet, or 3838 feet below sea level.

Territory to the east and west of the Talco well on the same fault plane is being tested by W. C. Windsor et al and Humble Oil & Refining Company, while Leland Fikes, Corsicana, et al have been issued permits to drill eight locations on the Talco Townsite Company 100-acre tract, M. V. Delgado Survey. Majority of these authorized locations are spaced 150 feet from property line.

W. C. Windsor et al's King & Hughes 1, located on 40-acre lease, Orlander James Survey, eastern Franklin County, about two miles southwest of the townsite, was coring Georgetown lime formation at 4050 feet, with an elevation of 364 feet. Top of Georgetown lime was logged at 3397 feet. Full section of Georgetown lime was due to be encountered, as the fault plane was cut above the Woodbine sand series, topped at 2818 feet, or 2454 feet sub-sea. Carr 1 is in close proximity to the Trinity section of the fault, having passed from the downthrow to the upthrow side of the fault in the Georgetown lime horizon. This accounts for the fact that the latter logged only 228 feet of lime, or about one-third of the hard formation already drilled by the Franklin County test.

Full section of Georgetown lime is likewise due for Humble Oil & Refining Company's M. B. Grove 1, north portion of 82.9-acre lease, Ben Jones Survey, Titus County, about two miles due east of Carr 1. The former passed from the downthrow to the upthrow side of the fault in the Pecan Gap Chalk horizon, logged at 1605-1642 feet. A portion of the chalk was cut out, as the normal section has a thickness of about 175 feet. Grove 1 encountered heavy flow of salt water in Blossom sand near the 1740-foot level. Drilling was in progress below 2500 feet late last week. No Austin chalk is logged by tests drilled in the Talco section of the Mexia fault zone, as the texture is largely made up of sand and shale.

Mount Enterprise Test

Search for production in the Trinity series is rapidly spreading to new areas in the Woodbine sand basin of East Texas. Pure Oil Company is moving in materials to explore this lower zone on its Mount Enterprise block of about 12,000 acres, centering about five miles east of Mount Enterprise, Rusk County. Preparations have been made to drill to 8500 feet. Carl Short, Dallas, has been given the drilling contract on a

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Cambrian Oil Co., C. S. Barrett 3	627	3268
King Royalty Co., Vallmert 6-S	490	3260
HUTCHINSON COUNTY—		
Gulf Oil Corp., Pitcher 4	294	3171
Stanolind, H. B. Terry 1	664	2930
MOORE COUNTY—		
Alma Oil Co., C. R. Jones 3	¶26¾	3478
Anderson-Kerr Pet. Co., B. A. Donaldson-Gulf 1	¶67½	3298
Phillips Pet. Co., S. P. Pittman 1	¶25	3230
WHEELER COUNTY—		
Dumar O&G Co., J. & A. Slavik 1	¶35¼	1840
Fain-McGaha Oil Corp., Binkley-Cain 5	¶4-639	2463
Mert Oil Co., G. W. Sitter 3-B	¶30	2248
Royal O&G Corp., Keller 26	¶7-2806	2546
Keller 27	¶2½-1791	2550
Skelly Oil Co., Johnson 14	¶2½-1230	2508

*Failures; †Junked; ¶Million cu. ft. gas.

day labor basis. A pronounced faulted condition prevails on Pure Oil Company's block, which extends from western Shelby County in an east to west direction almost across Rusk County. Location is 1050 feet from south and 330 feet from east line of the W. H. Faulkner 60-acre tract, William Elliott Survey.

In southwestern Harrison County, B. F. Miller et al's Bivens Farm Company 1, William Pettus Survey, was drilling below 3100 feet, according to reports. Edgar C. Johnston, Longview, has contracted to drill to 6000 feet, but it is understood that the hole will be carried to 8000 feet, if necessary to test the Trinity. Location is about 15 miles southeast of Longview.

J. S. Abercrombie and Harrison Oil Company, Houston, are reported to be making preparations to drill a Trinity test on one of their large blocks in Red River County. The partnership has completed eight failures in the county since November, 1934, seeking production from the lower Woodbine. Their J. M. Roberts 1, John Ware Survey, eight miles north of Clarksville, developed a show of extremely heavy black oil in Paluxy at 1120-1133 feet, and operations were halted in dry sand at 2075 feet in February, 1935.

The Trinity is the objective of the Lamar County wildcat of J. A. Forester et al on the J. F. Woodward 18¾-acre tract, J. W. Woodward Survey, 1½ miles east by south of Minter. Top of Georgetown lime was logged at 2256 feet, with an elevation of 385 feet. Drilling was underway near the 2800-foot level, according to late reports. A fault in this area has been mapped by Dilworth Hager, Dallas consulting geologist.

C. F. Lytle et al's J. L. Thompson 1-T, which is to test the lower section of the Trinity series on the west edge of the Mexia field, was drilling below 4975 feet. Commercial production is attainable from this deep zone at Mexia if the costly experience accumulated by sponsors of previous Trinity projects is used to an advantage.

Cayuga Test Expected

Location for a second Trinity test on their discovery leasehold in the Cayuga field, Anderson County, is expected to be announced within a few months by Tide Water Oil Company and Seaboard Oil Corporation. Geophysical surveys have been underway preparatory to selecting the new location, which will be spotted with a view of reaching the Lower Glen Rose at a lower structural position than their single producer. Their N. N. Wills 21-A is producing gas and water white distillate, and the small volume of water accompanying the production originally is showing signs of exhaustion. Laboratory analysis of the water indicates that it is not from the Lower Glen Rose.

W. A. Reider is preparing to spud in on a wildcat test in Navarro County on the T. W. Bowns tract in the H. & T. B. R. Survey, about 1½ miles south of Curry. The wildcat is located 330 feet each way out of the north corner of a 320-acre lease. The well will be drilled by Peyton Brothers of Mexia. This wildcat will be a Woodbine test and may go as deep as 3500 feet. The block was assembled by W. A. Reider, geologist, who has worked the area for some time. It is a surface and subsurface prospect.

Majors Gain

CHECK SHOWS 115 RIGS RUNNING IN BIG FIELD

Tyler.—The East Texas field accounted for 53 completions the past-week, including two failures on the east edge of the structure. There were 55 completions the previous week. Survey of field activity indicates about 115 rigs in operation, with a sharp gain in volume of work carried on by majors. Independents contributed 50 percent of the completions last week, but generally exceed the majors' quota by a wide margin.

Independents have waged aggressive drilling programs for months on east edge leases that were known pumping areas. This activity resulted in a high percentage of pumping wells appearing on the weekly completion report. Formation of gas cap areas, or conversion of oil wells into gas producers, has lately discouraged drilling activity along the east flank of the structure. Operators prefer to await developments and observe the production performance of completed wells in the gas-cap zones.

Bert Fields et al's E. L. Walker 8, located on west line of 140-acre lease, J. M. Tallent Survey, Upshur County, made an unsuccessful attempt for oil production in lower Woodbine and below the first water table. This well passed up the regular oil zone at 3700-3710 feet and cored to second water sand at 3769-3788 feet, and cores indicated slight oil saturation in soft sandy-ash near the 3750-foot level. However, this lower sand did not yield free oil, and the hole was plugged back to 3710 feet, where the well was completed flowing 30 barrels of pipe line oil per hour through half-inch choke on two-inch tubing. Stanolind Oil & Gas Company et al's Flake Williams 2-A, Wm. Goodwin Survey, recently aroused interest in the possibilities of commercial production being developed on the northwest edge of the structure from second sand found below the first water level. However, the lower zone failed to produce in spite of excellent oil saturation registered by recovered cores, and the well was plugged for completion in the regular horizon.

Reports indicate that Rushwold Oil Company, Dallas, is developing a small oil producer from top of sand with Frank Cole 1, NEc 30-acre lease, J. W. Bradshaw Survey, Gregg County. It is an outpost location on the west edge of the structure, and was considered doubtful for production. The company's M. T. Cole 1, located 990 feet from west and 330 feet from north lines of 123-acre lease, J. A. Duncan Survey, situated in the same area but on a more favorable structural position, has cemented casing on top of sand.

Approximately six inches of sand was penetrated with cable tools by Sun Oil Company's T. Lanham 1, SEc 100-acre lease, Juan Vargas Survey, west edge location for Smith County, in developing a flowing oil producer at a sub-sea depth of 3324 feet. A string of 5¾-inch pipe was cemented at 3807 feet, and top of pay was logged at 3729 feet. The well flowed 23 barrels of oil in 23 minutes through casing, with 45 pounds casing pressure.

LINE WORK DELAY

East Texas-Coast carrier project lacks material

Dallas, Texas.—Construction work on American Liberty Pipe Line Company's eight-inch trunk line, which will be the first independent carrier linking the East Texas field with tanker loading facilities on the Texas coast, has been retarded through inability to obtain prompt delivery by ships equipped to transport pipe from Eastern mills to Houston. Approximately 40 miles of the projected 110-mile unit has been completed, according to D. R. Zachary, general manager.

Delivery of pipe has been accelerated within the past 10 days, and a second construction gang will be employed by the contractor. The line is now slated to be in operation before the end of April.

Three pipe line systems in East Texas and the Channel Transport & Marketing Company's 34-mile eight-inch carrier extending from Conroe field to Norsworthy terminal on the Houston Ship Channel, are being utilized by the American Liberty Pipe Line Company in providing an outlet for East Texas crude. New construction work involves the laying of 106 miles of eight-inch line from Rusk station, Cherokee County, to Conroe. The company took over the Liberty Pipe Line Company's 45.6-mile eight-inch line, extending from Brightwell station, near Kilgore section of the East Texas field, to Rusk station, and is absorbing the Associated Pipe Line Company's field gathering system and the enlarged gathering system of the International Pipe Line Company. The latter is to be connected with Brightwell station by the building of six miles of eight-inch line.

Electric motor driven centrifugal pumps will be used in the three new booster stations now under construction at Summerfield, Pennington and Oakhurst. The line will have a capacity of 30,000 barrels daily.

Seven Sisters Hearing

Austin, Texas.—A hearing on the Seven Sisters field in Duval County has been set for March 21 by the Texas Railroad Commission at Austin for the purpose of determining proper rules for spacing, drilling, completion, and operation of wells in this new field.

EAST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Amerada & Deep Rock, Stovall 25 (193.86-ac)	5500	3642
Arkansas F. O. Co., Ferguson 12 (73.8-ac)	7200	3644
Atlantic, Fair 18-A (100-ac)	8500	3636
Young 11-C (63-ac)	4000	3688
Tom L. Beauchamp-G. P. Birdwell, Miller-Bradford 1 (20-ac)	20	3612
E. O. Byers et al, F. Cole 2-A (8.2-ac)	4000	3802
Ralph E. Fair, Inc. Maxwell 15 (87.41-ac)	800	3680
G. B. R. Oil Corp.-Geo. B. Ray, Thrash 6 (4.92-ac)	7000	3781
Gulf Oil Corp., H. Johnson 8 (101¼-ac)	7500	3797
Henshaw Bros. (was P. L. Hoffman), Rollins 2-A (11-ac)	2500	3650
Humble, J. Wooley 12 (100-ac)	7000	3752
Lake Oil Co., Slaughter 2-A (5.97-ac)	5000	3642
C. H. Lyons et al, J. E. Arnold 4 (11-ac)	6000	3713
Alex McCutchin et al, Rogers-Talifero 1 (200-ac)	*	3702
Sinclair Prairie, Mayfield 53-A (374.74-ac)	3000	3818
Slaughter & Kugle, Frederick 1 (11.43-ac)	240	3616
Sun, T. Lanham 1 (100-ac)	4000	3830
H. A. Pace 5-A (41½-ac)	1000	3681
Trico Oil Co., Bradford 4 (9¾-ac)	500	3554
KILGORE AREA—		
L. W. Callender (was S. P. Shelburne), Walker 8 (174.3-ac)	4400	3563
Humble, L. D. Crim 168 (914.51-ac)	8500	3712
Dora Thomas 17 (59.05-ac)	2000	3605
Hurtle Oil Co.'s Wm. Sexton 9	500	3585
Roger Lacy et al, fee 6-B (8.4-ac)	8500	3554
Lone Star Oil Co., W. C. Griffin 2 (2-ac)	400	3610
Alex McCutchin et al, J. A. Beall-Iotex 4 (47-ac)	5000	3714
Midfield Oil Co., A. McComic 3 (9.28-ac)	2000	3785
B. F. Phillips et al, Greggton 1 (51-ac)	700	3615
Potter Bros. Prod. Co., L. Alexander 2 (4½-ac)	500	3524
Selby O&G Co.-Lewis Prod. Co., Cole 13 (80-ac)	8600	3562
Shell, Elder 34 (196.05-ac)	8000	3562
Sinclair Prairie, Andrews 25 (200-ac)	7000	3480
King 51-A (366.7-ac)	8400	3500
King 53-A (366.7-ac)	9500	3500
King 14-B, Tr. 3 (90¾-ac)	5500	3490
King 19-B, Tr. 5 (147-ac)	7500	3485
Sun, Morton 17 (336.24-ac)	1000	3468
Texas Co., Baxter 13 (96-ac)	6500	3681
Chappell 9 (84.37-ac)	8800	3655
L. J. Wardlaw et al, King 1, blk 117	1000	3536
LONGVIEW AREA—		
Arkansas F. O. Co., Lathrop 16-C (101.2-ac)	9000	3603
Joe Bander et al, fee 1 (2-ac)	10,000	3669
Deep Rock Oil Corp., H. Pritchard 11 (105-ac)	9000	3555
Bert Fields et al, Walker 8 (140-ac)	1500	3788
Douglas Godfrey et al, Harris 1 (20-ac)	*	3515
P. F. Rutledge & C. W. Boller, Todd 1 (155-ac)	600	3701
Simms Oil Co.-F. Buttram, Nicholson 17 (800-ac)	2000	3631
Stanolind, Flemister 14 (60-ac)	9000	3669
Hopkins 15 (100-ac)	7000	3618
Jones 12 (83.23-ac)	5000	3610
Lathrop 19-B (63.68-ac)	8000	3613
Stanolind-The Falcon Co., Williams 5-B (71-ac)	2500	3687
Sun, Mackey 1 (44.76-ac)	2000	3698
ANDERSON COUNTY (Cayuga Field)—		
Roeser-Pendleton, Inc., L. B. Billett 1-B (918-ac)	1500	4033
Tide Water & Seaboard Oil Corp., J. A. Campbell 3 (243-ac)	2000	4046
ANDERSON COUNTY (Long Lake Field)—		
Tide Water & Seaboard, M. J. Reagan 1 (214.8-ac)	¶75	5299
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., R. A. Enas 5 (64-ac)	35	2985
W. F. Swain 10 (22-ac)	2500	2931
BOWIE COUNTY—		
Tex-Ark Oil Co., J. B. Hamilton 1	*	1121
FREESTONE COUNTY—		
J. P. Haley & Chas. Young, Jack Eppes 1	*	4676

*Failures; †Junked; ¶Million cu. ft. gas.

Spectacular Week

FIELDS IN SOUTH TEXAS GET 71 COMPLETIONS

WEEKLY STAFF REPORT

San Antonio — Another spectacular week in South Texas brought several important discoveries and field extensions along with 71 completions for an initial flow exceeding 34,500 barrels per day. There were 56 oil wells completed, 12 failures, one test junked, one cratered, and one gas well. This is the third consecutive week that the initial production figure has been at a high level.

The bulk of the producers were in the Mirando district, although the rest of the territory shared in comparatively large wells.

Key happenings of the week included a new salt dome field in Brooks County, the first commercial oil for that county, new sand in the Taft field, showing of a San Patricio County wildcat, 2¾ miles extension to Pearsall field of Frio County, minor extensions to several hot fields in Nueces County and the Mirando district, definite widening of the Mercedes field in Hidalgo County, several showings in important Live Oak County wildcats, logging of high markers in an Aransas County wildcat as well as a Balcones fault wildcat in Burleson County.

New operations showed no slacking and as many drilling operations are now included in the active list as before the past three weeks' orgy of completions.

Taft Comeback

FIELD IN LIMELIGHT AFTER DISAPPOINTMENTS

Corpus Christi.—Taft field, San Patricio County, which lost its fire of enthusiasm after two offsets to the discovery well and a couple of wildcats failed to find production, again stepped into the spotlight with a second sand discovery.

Humble Oil & Refining Company's J. W. Mayo 1, Tabor Survey, west offset to the discovery well, flowed 35 barrels of oil in one hour through three-eighths-inch choke from Catahoula sand at 3961-75 feet. It showed a working pressure of 420 pounds on tubing and 440 pounds shut in casing pressure. The sand is 1000 feet shallower than the discovery, which is the Greta or Heterostegina sand.

San Patricio County's other interesting well is Benedum and Trees' Mrs. E. H. Welder 2, Section 19, Welder ranch, which developed 300 feet of oil and salt water on drill stem test of sand at 4437-45 feet. It is located 3½ miles northeast of Sinton and approximately 1½ miles northwest of the same operators' Welder 1.

Wildcatting has shown a decided increase in this county and a continuance is in prospect.

Several of Saxet Heights (Corpus Christi) field, Nueces County, outpost wells were completed during the week to widen the producing area. The major extension was Taylor Refining Company's John Dunn 1, one-half mile northwest of production, which drilled to 4046½ feet, set casing on bottom, perforated at 4041-44 feet, and flowed five barrels per hour through 7/64-inch choke. It showed 500 pounds tubing pressure and 1500 pounds casing pressure.

There was another well holding a bit of attention, that being J. K. Culton and Republic Natural Gas Company's Baldwin 1, 6400 feet south of the discovery well. It cored saturated sand at 4083-90 feet, but a drill stem test with perforator set above the sand failed when the tool slipped. The recovery was two joints of salt water and mud. It reamed ahead for a second test.

Clarkwood townsite area is in the peak of its development, small tracts requiring a number of offsets to the several sands.

J. H. Coker and Lee Brothers Oil Company's A. J. Geistman 1, wildcat in Nueces County, showed 2100 feet of oil and salt water at 3154-76 feet (sand logged at 3148-76 feet) and is coring ahead. This well is 1200 feet east and 660 feet south of Sherman Nelson's Buckholt 1, which was completed for a gasser spraying oil in this sand.

Probably the most interesting wildcat on the Corpus Christi trend at this time is Buckingham Oil Company's McCampbell 1, two miles northwest of Aransas Pass in Aransas County and eight feet from the San Patricio Coun-

ty line. It is down 6162 feet and running several hundred feet higher than any other well drilled in this area. It has an elevation of eight feet, derrick floor, with Discorbis logged at 5611-57 feet and Heterostegina at 6144 feet.

Austin, Texas. — Gladewater County Line Independent School District has filed suit against the Texas Railroad Commission seeking to run 45,375 barrels of back allowable oil from its lease in the East Texas field. The petition asserted that the district was unable to obtain a permit from 1931 until 1934, and asks that it be permitted to run the production that would have been allowed the well during that period.

MIRANDO DISTRICT

Providing majority of South Texas oil wells

Laredo.—Mirando District continues to provide the bulk of new producers for the South Texas district, although the majority of the work is being done within the proven areas or on locations in close proximity to production.

Hoffman field, Duval County, saw another definite cut off in production during the week when Gorman, Yoakum and Gem Oil Company's Bishop Cattle Company 1, southwest corner of Section 70, one mile north of production, was abandoned at 2837 feet. This field is one of the newest additions to the district, but gives promise of having a limited prolific producing area.

Piedra Lumbre field, northwest of Government Wells, is coming in for a fair amount of development with the 1950-foot sand constantly being widened. Several short extensions were added during the week, including the first producer located off the Magnolia Petroleum Company's leases. The well, drilled by The Texas Company, is Duval County Ranch Company 13, which flowed 262 barrels in 18 hours through one half-inch choke from sand at 1939-57 feet. It showed pressures of 15 pounds on tubing and 300 pounds on casing.

Twin well operations and one outpost location in Seven Sisters field hold interest there, while Loma Novia recorded several short extensions along with the volume of new producers during the week.

Close watch is being given the Lopez trend with several wildcats being started along the line of production but outside of the proven limits.

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BALCONES FAULT

Lure of Cretaceous oil to cause much drilling

San Antonio—Balcones fault zone of South Texas takes on the appearance of being an important factor in the development campaign for this highly active district. Last week there were further extensions to the Pearsall deep production in Frio County with big wells, a heavy leasing play in heretofore dormant districts, and a high wildcat in the extreme northeastern portion of the district.

With the Titus County play reviving work in the old district of the Mexia fault zone and South Texas activity surging to new heights, there is little doubt but what this trend will be the hot spot of Texas for some time to come.

Amerada Petroleum Corporation's Cory and McWilliams 1, located 2¾ miles southwest of the Pearsall field, Frio County, has been completed for an initial flow of 7748 barrels per day after being shot with 135 quarts. The well is bottomed in Austin chalk at 5569 feet with seven-inch casing set at 5434 feet. It was treated with 3000 gallons of acid for six hours under pressure, but the result was that it showed about 25 barrels of oil per hour swabbing. It has a low fluid level and little pressure. After the shot, however, it came in and flowed 987 barrels of oil in three hours through open natural flow.

Same company treated Halff and Oppenheimer 5, just north of the east end of production, with 1000 gallons of acid, the result being a flow of slightly in excess of 55 barrels of oil per hour. It was not fully completed and likely would be shot for production.

The company's E. O. Kothmann, 1½ miles east of the chalk production and one half-mile south of the discovery of the Navarro sand producing area, is to be deepened from its present level of 4370 feet to the 5500-foot horizon. It made salt water in the Navarro sands and was abandoned last summer. Completion of this well will widen the producing area in the deep horizon to nearly six miles.

Completion of these large producers has brought a tremendous leasing play for major and independent operators in the entire territory surrounding the pro-

duction. The leasing play has been extended to adjoining counties, and blocks as well as broken spreads of acreage are being taken on commercial leases with prices materially varying. The outlook for a rather interesting wildcatting campaign is bright as a result of this work.

The interest extends northeast completely across the district but along the Balcones line. Walter Blumenthal's G. V. Crain 1, north corner of the W. C. Pearce Survey, Abstract 297, Burleson County, is reported to be checking almost 700 feet regionally high and is drilling at 5727 feet in Eagleford shale. It is about six miles northeast of the west corner of the Burleson County line and one mile from the Milam County line.

With the heat of interest at the highest point in history, so far as deep production is concerned in the South Texas fault zone area, it is expected that work will mount materially in an attempt to discover more Cretaceous producing areas at low levels.

Shallower work, however, shows slight gain. Guadalupe County especially is enjoying a revival of activity, being the key county in an Austin chalk play. Wells along this trend range from 1000 to 2500 feet in depth.

DISCOVERY TEST

Wildcat is first oil well in Brooks County

Mission.—Another county was added to South Texas oil producing list when Dick Young et al's Singer 1, Brooks County, showed for a commercial producer at 919 feet. The well is on a probable salt dome referred to as Alta Mesa and located in the northwestern portion of the county. It stands 750 feet in 21.5 gravity oil after bailing, but does not have quite enough pressure to flow. It does, however, build up a slight pressure when closed in and makes a light spray through choke. Casing is set at 915 feet, atop sand at 915½ feet.

Singer 1 is located 50 feet from the east line and 660 feet from the north line of the NE¼ SE¼ Section 312.

Other activity in the lower portion of the South Texas district included the definite widening of the Mercedes field, Hidalgo County, abandonment of several key wildcats, and progress on another test of a highly touted geophysical picture.

Union Sulphur Company's American et al 7, Tract 2309, 4000 feet east of production drilled to a total depth of 7608 feet, set 5 inch casing at 7510 feet, having logged a sand series at 7510-97 feet. The well was in final stages of completion late in the week.

The same company's American 8, north of the field, was below 7300 feet and coring.

Quintana Petroleum Corporation is coring below 4890 feet in John C. Engelman 1, Block 94, Mestenas Grant, four miles east and south of the Mestenas field. This well is on a geophysical structure worked by the McCollum Exploration Company, which already has provided two strikes in the immediate sector. Gulf States Development Company's Delta Orchards 1, one mile south of the field, however, failed to produce and is shut down at 6808 feet.

TEST CHECKING HIGH

Live Oak County wildcat likely to open new field

Beeville, Texas.—Dirks Brothers, J. R. Dougherty 1, southwestern Live Oak County wildcat, is checking from 85 to 115 feet higher than the nearest producing area on the strike line and has cored several sands showing saturation. As a result, it assumes the position as the probable opener of a new oil field.

It cored the Hockleyensis sand at 4326-35 feet, and a drill stem test was attempted, but the tool slipped. In two minutes Dougherty 1 recovered approximately 200 feet of mud and a little oil. The sand was rather shaley, however, and further cores showed shale. The test was cored ahead, finding another sand at 4420 feet with a little saturation. March 13 it was coring below 4450 feet. Elevation is 440 feet, derrick floor.

Dougherty 1 is located 330 feet from the northwest line and 960 feet from the northeast line of the tract in the J. Beagle survey, 16 miles south of George West and seven miles southwest of the McNeill field, a Hockleyensis sand producing district.

Another test holding considerable interest in Live Oak County is R. H. Feltner et al's John T. Carter and Brothers 1, in the northwestern portion of Section 319, in the southwestern

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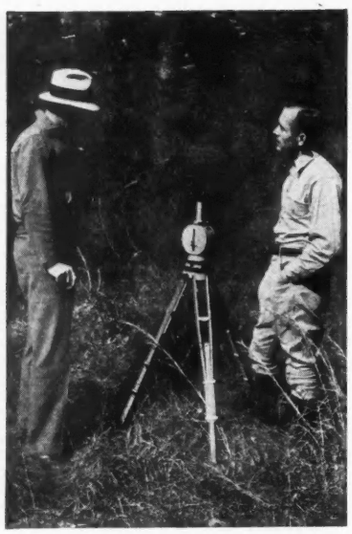

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portion of the county. The well has an elevation of 440 feet derrick floor. It made a drill stem test in the Government Wells horizon at 2952-57 feet, the result being 34 thribles of mud and gas and three thribles of salt water. The well made several heads while breaking down drill pipe suggesting a rather heavy gas pressure. The well is preparing to make another test in the section.

Houston Oil Company's Mrs. C. L. Cartwright 33, in the southern portion of the Lucas field, Live Oak County, continued to blow wild and burn. It has built up a large crater and is defying all efforts to control. Eight lines of steam and water are being pumped into the hole with apparently little affect. The test, which had drilled to 4660 feet, plugged back to 3300 feet to straighten hole. It blew out while attempts were being made to go ahead from the plugged back level. The gas likely is coming from a sand topped at 2095 feet.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Illinois Pet. Co. I. Hall 9-B, Butler sur (Dirks)	550	3913
BEXAR COUNTY—		
Richcul Oil Co., C. H. Terrell 9, sec 53 (Von Ormy)	5	710
CALDWELL COUNTY—		
Marts & Beavans, Inc., G. Mackey 1, 300 ft sel, 2077 ft nel 201-ac tr, G. Pace sur	*	2110
DUVAL COUNTY—		
Atlantic, J. F. Welder Heirs 4-C, sec 591 (Seven Sisters)	750	2213
J. F. Welder 5-C, sec 591 (Seven Sisters)	700	2491
Bridwell Oil Co., Bishop Cattle Co. 6, sec 76 (Loma Novia)	725	2626
William Hubbard 1-C, sec 75 (Loma Novia)	350	2581
Buchanan & Blanco, J. F. Welder 10, sec 385 (Seven Sisters)	850	2492
Central Producers, Inc., H. Wendt 4-A, sec 43 (Gov't Wells)	85	2309
J. H. Chandler, Rita S. de Pena 2, 4290 ft swl, 1394 ft nwl Pena tr, sh 4, Mesquite gr	*	2837
Duval Oil Corp., Bishop Cattle Co. 12, sec 59 (Loma Novia)	825	2549
L. B. Moody 13-B, sec 60 (Loma Novia)	150	2548
Eastern Texas Oil Co., M. C. Hubbard 3, sec 71 (Loma Novia)	75	2687
Gorman, Yoakum & Gem, Bishop Cattle Co. 1, sec 70, 1 mi n Hoffman field	*	2837
Frank Gravis, A. C. Tunlin 4, blk 1, sec 78 (Loma Novia)	750	2586
Highland Oil Co., C. W. Hahl 6-D, sec 63 (Loma Novia)	400	2591
M. C. Hubbard 18, sec 72 (Loma Novia)	250	2753
M. C. Hubbard 20, sec 72 (Loma Novia)	350	2727
Humble O&R Co., M. C. Hubbard A-7, sec 84 (Loma Novia)	400	2851
M. C. Hubbard 4-B, sec 83 (Loma Novia)	500	2798
M. C. Hubbard 33-B, sec 72 (Loma Novia)	600	2756
M. Vela 6, sec 42 (Loma Novia)	*	2715
L. & P. T. Wright 1, sec 118, 1 mi n Seven Sisters	*	2858
Magnolia, Brennan Benavides 34, blk 359, M. E. Hale sub, Arispe gr (Cole)	75	2751
C. W. Hahl 15, sec 67 (Loma Novia)	400	2675
C. W. Hahl 16, sec 67 (Loma Novia)	325	2685
L. B. Moody 5, sec 60 (Loma Novia)	*	2626
Reynosa Oil Co., R. P. McLean 3-A, sec 62 (Loma Novia)	275	2557
Rogers & Rogers, C. & C. A. Cuellar 1, sec 117 (Hoffman)	480	2872
Rosan Oil Co., M. C. Hubbard 9, sec 84 (Loma Novia)	1400	2818
Santa Clara & Henderson, J. F. Welder 7-C, sec 381 (Seven Sisters)	600	2425
Santa Clara, J. F. Welder 12, sec 385 (Seven Sisters)	1000	2487
J. F. Welder 25, sec 383 (Seven Sisters)	†	1981
Shell Pet. Corp., J. F. Welder 4, sec 385 (Seven Sisters)	1000	2492
Smith & Hamill, M. C. Hubbard 16, Sec 77 (Loma Novia)	480	2682
The Texas Co., Bishop Cattle Co. 11, sec 59 (Loma Novia)	327	2555
Duval County Ranch 13, sec 100 (Piedra Lumbre)	425	1957
M. Vela 24, sec 42 (Loma Novia)	520	2660
H. Wendt 17, sec 68 (Loma Novia)	250	2816
FRIO COUNTY—		
Amerada Pet. Corp., Cory & Mc Williams 1, blk 13, J. Arocha sur No. 298, 2¼ miles sw Pearsall field	7748	5569
HIDALGO COUNTY—		
Gulf States Oil Co., Delta Orchards 1, 500 ft nl, 400 ft wl lot 2, blk 73, Mestinas gr (1 mi s Mestinas field)	*	6808
Maddox & Tatum, John H. Shary 1, 330 ft sl and el of tr 48-2, por 53	*	6006
LIVE OAK COUNTY—		
Houston Oil Co., Cartwright 33, F. Botello sur (Lucas)	*	4660
L. W. Stieren, W. A. Smith 1, 330 ft nl and wl e½ 181-ac tr, T. B. Reese sur	*	3513
McMULLEN COUNTY—		
Luray Oil Co., Fee 10, J. Garner sur (Callihan)	25	1039
Stephenson & Wuest, Chas. T. Lark 1, blk 114, E. W. B. Scrugham sur (Callihan)	35	1027
NUECES COUNTY—		
Benson & Corgy, B. Buckholt 1, C. Land sur No. 404 (Saxet)	500	4420
Conroe Dr. Co., J. M. Robinson 2, blk D, McBride Partition (Saxet Heights)	450	4108
J. K. Culton, Baldwin et al 4, blk 20, Russell Farm Lots (Saxet Heights)	780	4097
Marine Oil Co., Chas. Kahler 2, Villareal sur (Saxet Heights)	350	4080
Hiriam Reed, Scheffield & Hutchins 1, Vlliareal sur (Saxet Heights)	750	4126
Renwar Oil Co., L. A. Winship 1, Clarkwood townsite (Saxet)	450	4416
Taylor Refinin Co., John Dunn 1, Villareal sur (Saxet Heights)	350	4047
REFUGIO COUNTY—		
Quintana Pet. Corp., Tom O'Connor 32-A, blk 25, Swisher sur No. 5 (Tomoconnor)	1333	5960
SAN PATRICIO COUNTY—		
Humble O&R Co., J. W. Mayo 1, Tabor sur (Taft)	840	3975
Plymouth Oil Co., E. H. Welder 33-C, sec 71 (Plymouth)	240	5621
STARR COUNTY—		
Barnsdall & Phillips, Yturria 7, sec 100 (Samfordyce)	500	2818
VICTORIA COUNTY—		
American Liberty Oil Co., Dr. E. G. Gray 3, SA&MG sur No. 8 (Placedo)	550	4767
Barnsdall et al, Wheeles, Jr. 1, J. M. Brownson sur (Placedo)	550	4765
Costa & Eastern Texas, Kruppa 1-B, Rupley sur (Placedo) pb 5360 ft.	¶20	6468
WEBB COUNTY—		
Mills Bennett, E. L. Valadez 1, sec 111, sh 4-B (Lopez)	500	2213
Hunted Co., Inc., A. S. Billings 1, sec 113, blk 1 (Lopez)	400	2168
O. W. Killam, A. M. Bruni 6, tr B7, El Ranchito tr, J. V. Borrego gr (Blas Uribe)	*	1213
A. M. Bruni 46, sec 466 (Cole)	*	1816
Magnolia Pet. Co., S. Benavides 11-G, on common corner blks 222, 255, 223, 254, Hale sub (Cole)	250	2780
Montour Prod. Co., A. Lopez 3, sec 111, sh 13 (Lopez)	450	2228
G. G. Mortimer, A. Lopez 4, sec 111 (Lopez)	525	2228
Superior Oil Co., W. C. Billings 6, sec 109 (Lopez)	800	2243
The Texas Co., M. W. Brennan 12, blk 356, Hale sur (Cole)	1000	2806
ZAPATA COUNTY—		
L. C. Muckelroy, A. D. Haynes 1, blk 8, Haynes sur, Comitas gr (Comitas)	*	805
Texas Co., Whitehead 84, C. Blanco gr (Escobas)	35	1252

*Failures; †Junked; ¶Million cu. ft. gas.

New Field Looms

LOCHRIDGE PROSPECT MAY USHER IN ANOTHER RESERVE

WEEKLY STAFF REPORT

Houston.—A production test will be given Gulf Oil Corporation's Fairfield 1, Lochridge prospect, A. Robinson Survey, Brazoria County, next week because of a showing of oil on two drill stem tests taken in the Marginulina formation at 6217 to 6274 feet, and if the production test proves successful it will establish a new oil field on the Texas Gulf Coast.

A drill stem test was made from 6217 to 6274 feet, showing in nine minutes, three quarters of a joint of oily mud. The test was made through a three eighths-inch choke on top and a quarter-inch choke on bottom. The second drill stem test, from 6260 to 6274 feet, in eight minutes showed 15 gallons of oily mud and a pressure of 1500 pounds. It was made through quarter-inch chokes on top and bottom. Seven-inch casing has been set at 6260 feet.

Fairfield 1 topped the Large Discorbis at 5636 feet, Heterostegina at from 5850 to 5878 feet, Round Marginulina 5995 feet, and the Flat Marginulina at 6035 feet. The test is 4700 feet due north of the same operator's Wilkes Smith 1, which was abandoned some time ago in salt water sand. Fairfield 1 is running higher than Wilkes Smith 1.

Fairfield 1 is the eleventh test drilled in the area in search of oil. Five previous tests have been drilled in Fort Bend County and five in Brazoria County.

Van Vleck Field

Skelly Oil Company was completing two wells in the Van Vleck field, Matagorda County, March 13, 1936, which will extend the field in two directions, to the east and west.

Skelly Oil Company's Cobb B-5, 2500 feet west of production, was drilling plugs after setting seven and five eighths-inch casing at 7503 feet in oil sand. Top of the sand was found at 7464 feet. The well is in the M. Cummings Survey.

The same operator's Metzger 1, 957 feet east of production, M. Cummings Survey, was also drilling plugs at the end of the week after setting seven and five eighths-inch casing at 7504 feet after topping the oil sand at 7472 feet.

The Texas Company's Morek 1, north of Pickett Ridge field, I. & G. N. Survey, Section 75, Wharton County, was nearing the contract depth of 5000 feet at the end of week without finding any oil shows below 4615 feet. The well was drilling in shale at 4950 feet, March 13, 1936. This northern extension test had sand which carried salt water from 4482 to 4484 feet. From 4595 to 4597 feet a sand was found which contained a gas odor. At 4597 to 4614 feet sand was cored which had an odor of oil and gas. A salt water sand was found at 4763 feet. After reaching contract depth the hole probably will be plugged back and the odors of oil and gas will be tested. The Texas Company was preparing to complete its Pierce Estate A-12 at 4706 feet. Seven-inch casing was set at 4700 feet. At the end of the week the operators were drilling plugs.

The Texas Company has made location for Pierce A-16 in Pickett Ridge field. It is in the I. & G. N. Survey, Abstract 221. It is south 75 degrees, 40 minutes, 1866 feet from Pierce Estate A-11 and south 24 degrees 57 minutes west, 933 feet from Pierce Estate A-2. The same operator's Pierce Estate A-17, is in the I. & G. N. Survey, Abstract 221. It is south 77 degrees 45 minutes east, 933 feet from Pierce Estate A-11 and south 20 degrees, 58 minutes west, 933 feet from Pierce Estate A-10.

New Louise Producer

Another producer was added to Louise field, Wharton County, by Pure Oil Company during last week when the operators brought in Weaver 3, J. M. Brownson Survey, Abstract 797, for 230 barrels per day through a quarter-inch choke. The well was drilled to 5157 feet in sand showing oil with the top of the sand found at 5123 feet. Seven-inch casing was set at 5124 feet.

Cockburn Oil Corporation's T. Connor 1, Leach prospect, E. T. & R. R. Survey, Section 73, Wharton County, was coring in salt water sand at the close of the week at 5353 feet. Top of the salt water sand was found at 5320 feet.

Coyle-Concord abandoned its test in the Garwood area during the past week after swabbing salt water in Powell B-2, I. & G. N. Survey, Colorado County, Section 45, at a plugged-back depth of 5934 feet. The well was drilled to 6755 feet in salt water sand after making several tests which showed some oil around 6113 to 6120 feet.

A new wildcat location for the Texas Gulf Coast at the close of the week was G. W. Johnson's F. Drymalla 1, 230 feet out of the south or southwest corner of T. Coleman Survey, Colorado County.

A special order which would permit Hamill and Smith to produce 100 barrels daily from the South Texas Development Company No. 1 in the Conroe field was sought last week at a hearing before the Texas Railroad Commission.

Company representatives told the railroad commission that the well is producing 88 percent water with the oil, and that experimental work done indicated that there was no method by which they could produce the allowable fixed by the railroad commission and not increase the percentage of water produced.

Gordon Griffin, petroleum engineer representing the applicants, said that his company was willing for the commission to make any sort of experiment considered advisable. However, he pointed out that two wells on adjacent leases, which are also producing from the Upper Cockfield, are now producing water only, even though experimental work has just been finished and a complete work-over job has been done.

Griffin expressed the opinion that the only way to keep the well from going to water was to continue to produce rapidly enough to move the water off the sand.

Representatives of the Conroe Operators' Association opposed the order, and asked commission engineers to take advantage of the invitation and make the tests suggested.

Stanolind Oil & Gas Company's State 1, Turtle Bay field, Chambers County, made a drill stem test March 12, 1936, from 6590 to 6615 feet. The test showed 1560 feet of oil and six feet of salt water through a quarter-inch choke on bottom and a three eighths on top. Pressure of the well was 75 pounds. Stanolind Oil & Gas Company's State 1, is a south offset to the discovery well and is in Turtle Bay.

Anahuac Completes Five

Five new producers was added to the Anahuac field, Chambers County, during the past week. Humble Oil & Refining Company completed four and Sun Oil Company one.

Humble Oil & Refining Company's White 7, on the north side of the field, J. McGahey Survey, was completed for the best producer to-date in the field. At 7085 feet it came in at the rate of 788 barrels per day through a quarter-inch choke. Tubing pressure was 1125 pounds; casing pressure 1075 pounds. The well had no gas sand and topped the oil sand at 7024 feet while drilling to 7085 feet. Seven-inch casing was set at 7065 feet. The well had the top of the Discorbis at 6030 feet, Heterostegina 6329, Marginulina 6620 and the Frio at 7024 feet. White 7 is 800 feet north of White 3 and ran over 100 feet lower than the latter test.

The eastern part of the Anahuac field was extended one location north when Humble Oil & Refining Company finaled its Wilcox 1, H. & T. C. Survey, Section 50, for 709 barrels daily from the Frio sands at 7085 feet. The well came in through a quarter-inch choke with a tubing pressure of 1000 pounds and casing pressure of 1025 pounds. The well had no gas sand and the top of the oil sand was encountered at 7025 feet. Seven-inch casing was set at 7053 feet. Top of the Frio was found at 7015 feet.

Humble Oil & Refining Company's Tyrell 4, south offset to Sun Oil Company's White 7, H. & T. C. Survey, Section 52, was completed for 752 barrels per day through a quarter-inch choke at 7082 feet. Tubing pressure was 1200 pounds. There was no gauge on the casing. The well topped the gas sand at 6960 feet and the oil sand at 7012 feet. Top of the Frio was found at 6960 feet. Seven-inch casing was set at 7040 feet.

The same operator's Clark 9, on the east side of a fault and north offset to Clark 4, H. & T. C. Survey, Section 57, was finaled as an oil producer at 7076 feet, making 690 barrels through a quarter-inch choke with a tubing pressure of

1025 pounds; casing pressure was 1125 pounds. The gas sand was encountered at 6849 feet and the oil sand at 7006 feet. Frio was found at 6849 feet. Seven-inch casing was cemented at 7048 feet.

Sun Oil Company's White 8, J. McGahey Survey, between White 2 and White 6, was completed at 7080 feet and came in making 700 barrels daily through a quarter-inch choke with a tubing pressure of 1050 pounds; casing pressure was 1225 pounds. Sand with gas was encountered at 6886 feet and oil at 7030 feet. Seven-inch casing was set at 7030 feet. Frio was encountered at 6886 feet.

Humble Oil & Refining Company has made location for C. A. Lord 1. It is 466 feet out of the southeast corner of Section 50, H. & T. C. Survey. It is on the extreme east side of the field.

Hamman Exploration Company's M. Cleveland 1, E. Hall Survey, Matagorda County, the discovery well for the deepest producing field in the Texas Gulf Coast, was reported making salt water at the end of the week. The well was making 12 barrels per hour showing 22 percent salt water through a three sixteenths-inch choke with a casing pressure of 1350 pounds; tubing pressure 2400 pounds. The gravity of the oil is 34 degrees. The gas oil ratio is 1950 to 1. The well was completed from perforations 9361½ to 9370 feet.

HOUSTON A. P. I.

Houston.—On the evening of March 26 members of the Houston Chapter, Production Division of the American Petroleum Institute, will hold their regular meeting at 7:30 in the auditorium of the Houston Chamber of Commerce. A topic, Speeds of Rotary Drilling, and a motion picture, on current oil field operations, are promised as the program of the evening.

FIVE PRODUCERS

Lake Charles.—Five oil producers, one gas well and two failures comprised the list of completions in the Louisiana Gulf Coast during the past seven-day period. The initial production of the five producers was 2363 barrels.

Amelia Extended

GLENN McCARTHY'S LONGE 1 OPENS AREA NORTHWEST OF DISCOVERY

Houston.—What was considered a salt water well was converted into a gas and distillate producer with possibilities of becoming a commercial oil well when Glenn H. McCarthy's Longe 1 extended the West Beaumont-Amelia field, Jefferson County, over two miles northwest March 10, 1936. The well is producing from the Marginulina sands at 5855 feet, or 800 feet above Humble Oil & Refining Company's discovery well, structurally.

Longe 1 cored a large section of salt water sands which on a drill stem test showed salt water and made many believe that the well did not stand a chance to produce oil. But after drilling to 6820 feet the operators plugged back to 6150 feet and set seven-inch casing. The operators then perforated a sand different from that which they were expected to perforate and when the news broke that the well was making gas, wash water, and distillate, interest in the area was revived.

McCarthy perforated the well with 50 holes from 5835 to 5855 feet. After pumping in an unusual amount of water the well started cleaning itself, making wet gas with a small trace of distillate. Initial tubing pressure was 1800 pounds; casing pressure, 800 pounds. The well was cleaning through a quarter-inch choke March 10, 1936, and flowing from separator into the slush pits, making over 58 gravity distillate, wash water, mud without any trace of salt water. Since then the fluid is turning more of an "amber" color. At 2:35, March 10, the tubing pressure was 1900 pounds and the casing pressure was 1500 pounds. It is believed that the operators perforated the sands a little high and if the casing was perforated a few feet lower the well would have made oil.

The extension test was making 30 barrels of 58 gravity distillate daily through a two sixty fourths-inch choke, March 12, 1936. Tubing pressure was 2065 pounds; casing pressure 2075 pounds.

A sample of the distillate was taken in a bucket and set fire. The distillate burned for over an hour and the flames showed a dark color; so did the "flare" which indicated that the well was making distillate with a trace of oil.

March 11, 1936, the well was placed on a three sixty fourths-inch choke and was making from two to three barrels of distillate and a large amount of wash water, with a tubing and casing pressure over 2100 pounds. It will be four or five days until another gauge is taken.

Longe 1 extends the field northwest. Moreover, it logged five other possible producing sands which will be tested in the second well. It had a showing in the Miocene formation from 4560 to 4600 feet. On an electrical logging device it showed good porosity and resistivity. The next possible producing sand was found in the lower Heterostegina formations at 5595 to 5640 feet. This sand showed 13 ohms. The well is now producing from perforations at 5835 to 5855 feet in the Marginulina sands. This sand showed 19 ohms on an electrical logging device. In the lower section of the Marginulina formation another potentially productive sand was found from 5901 to 5911 feet. In the upper section of the Frio formation 14 feet of sand was found from 6095 to 6109 feet and in the lower section of the Frio section 16 feet was found from 6740 to 6756 feet.

McCarthy has made location for Longe 2. It is 660 feet north of Longe 1 and 330 feet west of the east line of lease in the H. Williams Survey. The operators ap-

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Clark 9	690	7076
Tyrell 4	752	7082
White 8	788	7085
Wilcox 1	709	7085
Sun, White 8	700	7080
BARBERS HILL—		
Sun, Wilburn 18	534	5619
BIG CREEK—		
Gulf, Davis 67	100	3915
LOUISE—		
Pure, Weaver 3	230	5157
MANVEL—		
Burwyan Oil Co., Gubbert 1	¶2	4115
Texas Co., Dawson 2 (wo)	216	5690
MYKAWA—		
West Prod. Co., Irwin 8	720	4513
RACCOON BEND—		
Humble, Thompson 20-X	230	4140
TOMBALL—		
Humble, Frederick 2	100	5570
Kobs A-3	420	5566
COLORADO COUNTY—		
Coyle-Concord, Powell 2-B, Garwood, I&GN sur	*	6755
MONTGOMERY COUNTY—		
Chas. Gholson et al, Johnson 1, nw of Willis, W. Weir sur	*	3992

*Failures; †Junked; ¶Million cu. ft. gas.

Left to right: Louis Baker, drilling superintendent, M. T. Halbouty, geologist and engineer, and M. M. Cooke, mud engineer, for Glenn H. McCarthy, Incorporated, watching Longe 1 flow into the mud pits.

parently expect the area to be large and were not disappointed with the showing in Longe 1, which will supply fuel for further drilling in this area.

Glenn H. McCarthy, president of the Glenn H. McCarthy, Inc., and M. T. Halbouty, petroleum engineer and chief geologist for the company, have in Longe 2 their second major extension to Gulf Coast oil fields in less than one year. At Anahuac, Chambers County they extended the field over two miles northward when White 1, was brought in. Since then that part of Anahuac field has proven very prolific. Humble Oil & Refining Company purchased part interest in the area at Anahuac.

Louis Baken, drilling superintendent for Glenn H. McCarthy, has drilled both extension tests. Longe 1, was finished in about 30 days, and White 2, at Anahuac, in the same time. No lost time accidents occurred. He will probably drill the second well north of Longe 1.

Previous report on the wells circulated among several of the major oil companies was that a drill stem test from 6052 to 6118 feet showed traces of oil, gas and salt water with no free oil. The test was made through a three eighths-inch choke on top and a quarter-inch choke on bottom. The tool slipped, however, and a true test of the sand was not obtained. Later information was that the well cored from 5878 to 5889 feet in sand with an odor of oil; from 5901 to 5911 feet an oil show with three percent saturation; from 5990 to 6011 feet, oil odor; 6099 to 6113 feet, oil show with four percent saturation; 6113 to 6118 feet, four percent saturation with a salty taste; and 6749 to 6761 feet salt water sand with each of the sands with oil odor carrying salt water at its base. Salt water sands were cored from 6398 to 6720 feet.

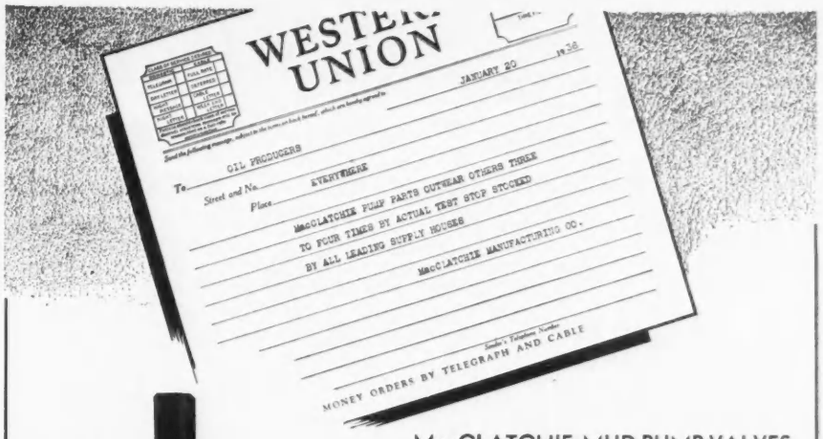
The showing of oil and gas in the Longe 1 probably will start a drilling campaign in this area. Stanolind Oil & Gas Company has offset acreage and will have to drill. Glenn H. McCarthy's Longe 1, was drilled on farm-out acreage from Stanolind Oil & Gas Company. Sun Oil Company also has a large amount of acreage in the area.

The March 2 issue of THE OIL WEEKLY, page 63, carried a map of the Amelia area showing the discovery well and Glenn H. McCarthy's Longe 1.

Humble Oil & Refining Company's Herbert Broussard B-1, over 3000 feet east of the discovery well, C. Williams Survey, was drilling below 6669 feet at the end of the week after coring salt water sand from 6237 to 6253 feet and from 6448 to 6485 feet in Frio formation.

At the end of the week the well appears disappointing as the geological markers as compared to the discovery well shows that Hebert Broussard B-1 is running lower. The discovery well topped Discorbis at 5496 feet, Heterostegina at 5922, Marginulina 6105 feet, and Frio at 6350 feet. Hebert Broussard B-1, topped the Discorbis at 5692 feet, Heterostegina at 6060, and Marginulina at 6152 feet. However, it may have cut a fault.

Humble Oil & Refining Company's Miller 2, east of the discovery well and 1850 feet north of the same operator's Miller 1, A. Savery Survey, was drilling in shale at 6150 feet at the end of the week. It is running higher than the discovery well and also higher than the Miller 1 on the Discorbis, and flat on the Heterostegina formation. Miller 1, topped Discorbis at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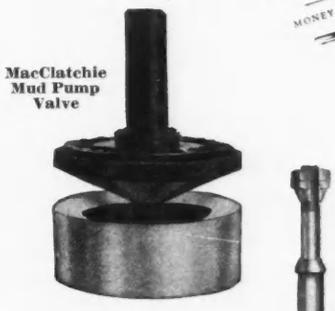
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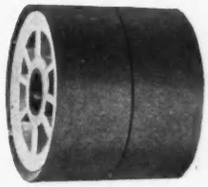
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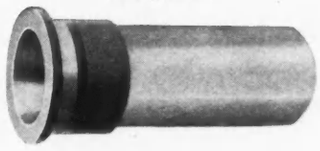
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5400 feet and Heterostegina at 5767 feet. Miller 2, topped the Discorbis at 5389 feet and the Heterostegina at 5760 feet.

With indications shown by geological markers, the field may surprise many and go in a northwesterly direction as Miller 1 is the highest well in the field with the exception of McCarthy's Longe 1, which topped Discorbis at 5467 feet, Heterostegina at 5591, and Marginulina at 5826 feet. However, the field is reported shown by geophysics to be faulted and it is too early to judge which way it is going.

TEXAS PERMITS

Austin, Texas.—The Texas Railroad Commission approved last week permits for the drilling of 212 new wells, 20 less than were allowed the week before.

Gulf Coast area reported 50 new locations, the largest number received from any district. This included 18 from Nueces County. In Southwest Texas, there were 38 locations, with 20 in Duval County.

East Texas reported 43 permits, which included 25 in Gregg County, eight in Rusk County, five in Smith County, and five in Upshur County.

From East Central Texas, 24 locations were filed, with nine in Titus County. West Central Texas reported 20 permits, and there were 13 from North Texas.

Panhandle filed 13 locations, and there were 11 from West Texas operators.

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Wildcat Blows Out

DEEP PROSPECT AT HAYES SHOWS CONSIDERABLE KICK

Lake Charles.—Shell Petroleum Corporation's Lacassine 1, Hayes prospect, Section 20-11s-5w, Jefferson Davis Parish, blew out during the past week at 9802 feet making gas, mud, salt water, and an estimated 50,000 barrels of fluid a day. At the end of the week the operators were fishing for 64 stands of drill stem with a core barrel attached. The top of the fish is around 3963 feet.

Over three weeks ago the well tried to blow out at 9344 feet. While the operators were coming out of the hole with a three-inch core at 8160 feet the well tried to blow out and showed oil and gas. The well was killed, and when the crew started back in the hole a bridge was found at 6445 feet. When the well tried to blow out at 9344 feet it was placed on a quarter-inch and a three eights-inch choke, and it showed 1000 pounds pressure.

Shell Petroleum Corporation abandoned its Realty Company 1, during the past week at 10,157 feet. This was the fifth well in the Louisiana Gulf Coast to drill beyond 10,000 feet in this area. The well was used for geophysical work after failing to find anything of commercial value. It is located on the Houma Townsite prospect, Section 103-17s-17e, Terrebonne Parish.

Shell Petroleum Corporation added another producer to Roanoke field, Jefferson Davis Parish, during the past week when Carter 2, 187 feet north and 330 feet east of the southwest corner of Section 1-9s-4w, came in at the rate of 600 barrels per day from 8680 feet. The well drilled into sand showing oil at 8652-8680 feet. Seven-inch casing was set at 8667 feet. After washing the well in through a three-eighths inch choke it made 600 barrels daily with a tubing pressure of 890 pounds; casing pressure 1260 pounds. A drill stem test was made from 8505 to 8517 feet and showed 10 feet of distillate and 50 feet of mud.

Humble Oil & Refining Company was preparing to complete its Devillbiss 3, Section 11-9s-4w, at the end of the week at 8850 feet. The oil sand was topped at 8837 feet and seven-inch casing was cemented at 8837 feet.

Wildcat Shows Oil

A. G. Oliphant's Calcasieu National Bank 1, Nibbletts Bluff prospect, Section 23-10s-12w, Calcasieu Parish, was coring ahead below 6391 feet at the end of the week after coring a sand with a slight show of oil in the Heterostegina formation. The sand showing oil was cored from 6378 to 6381 feet. The wildcat topped the Discorbis at 5953 feet and the Heterostegina at 6220 feet.

Union Sulphur Company will probably abandon its second well on the South Lake Charles prospect, south of Lake Charles, Section 2-11s-9w, Calcasieu Parish, at 9250 feet after drilling into water sand at 9244 feet. At the end of the week the operators had plugged back to 4555 feet and probably will test sand at 4555 to 4566 feet, which showed two ohms on an electrical logging device.

Fohs Oil Company's Salt Dome (Frost) 1, in a graben between Gillis and English Bayou fields, Section 11-9s-8w, was preparing to reset screen at 5259 feet at the end of the week after making a production test which failed.

After trying to wash the well in during the past week from sands found at 5259 to 5269 feet, the well kicked the screen up into the hole and flowed oil for 1½ hours. It was closed in and built up a pressure of 1000 pounds. Then the test was killed and a new setting made.

Two wells were completed in Gillis field by Union Sulphur Company during the week. One was a gas well and the other a commercial oil producer. Barbee 6, on the northwest side of the field, Section 11-9s-8w, was completed at 6733 feet after setting five-inch casing at 5728 feet and topping the pay sand at 6730 feet. The well came in at the rate of 824 barrels per day through a 20/64-inch choke with a tubing pressure of 750 pounds. The oil tested 34.6 degrees. Castle 5, northwest offset to Castle 4, also northwest of the English Bayou field, Section 14-9s-8w, was completed at 6046 feet, below the regular producing horizon found in Castle 3, which was at 5172 to 5178 feet. The well topped the sand at 6043 feet. It set seven-inch casing at 6045 feet. It came in making an estimated three million cubic feet gas daily through a quarter-inch choke.

Union Sulphur Company's Powell Lumber Company 5, Section 12-9s-8w, was making up tubing at the end of the week to complete. The hole is bottomed at 6677 feet with oil sand at 6660 to 6675 feet.

The Texas Company's Nickerson Fee 8, on the northeast side of Gillis field, was waiting on cement to set at the end of the week after setting 7⅝-inch casing at 6708 feet in oil sand. The bottom of the hole is at 6717 feet, with the sands showing oil found from 6708 to 6712 feet. This test will extend the field northeast.

Union Sulphur Company has made location near the Texas Company's Nickerson Fee 8. J. A. Bell 1 is 797 feet north and 305 feet east of the northeast corner of Section 12-9s-8w, being in Section 6-9s-7w.

Magnolia Petroleum Company's Miama Cooperation 1, Willow Lake prospect, Section 32-12s-8w, Cameron Parish, was shut down at the end of the week at 8490 feet and will prob-

ably be abandoned at that depth after failing to show anything of commercial value.

Continental Oil Company has made a location in the St. Martinville field, St. Martin Parish. Qzenne Fee 1 is 990 feet north and 990 feet west of the southeast corner of a 172-acre tract or from the northeast corner of the Smedes tract in Section 18-11s-6e.

Jefferson Lake Oil Company's Lake Pigneur 274, Jefferson Island dome, township 12s, range 5e, St. Martin Parish, was preparing to perforate casing at the end of the week at 8446 to 8468 feet after using the well for geophysical work. Five-inch casing was set and cemented at 8510 feet. If the well produces commercial oil it will be the discovery well for a new field in the Louisiana Gulf Coast.

Houston Oil Elects

Houston.—All directors of Houston Oil Company of Texas, were reelected at the annual meeting of stockholders March 10. Election of officers will occur around March 16.

Directors include: Holman Cartwright, David Hannah, George A. Hill, Jr., A. H. Kennerly, George W. Sears, and A. W. Standing, all of Houston; Samuel C. Davis, Samuel W. Fordyce, George E. W. Luehrmann, B. H. Lang, Thomas S. Moffitt, and Ethan A. H. Shepley, all of St. Louis; and L. S. Zimmerman of Baltimore.

RODESSA LINE

Shreveport.—Shoreline Oil Company will build a six-inch pipe line from its refinery at Lewis, Section 24-21n-16w, Caddo Parish, to the Rodessa field. Right of way is being acquired. This company recently began addition of a $200,000 unit to its Lewis refinery.

LOUISIANA PERMITS

Shreveport.—Thirty-two drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission. Of these 19 were for North Louisiana Parishes as follows: Caddo, 4, all in Rodessa; Franklin, 1; Jackson, 2; Lincoln, 1; Morehouse, 4; Ouachita, 1; Rapides, 2; Sabine, 1; Union, 2, and Webster, 1.

Those in south Louisiana follow: Ascension, 1; Calcasieu, 2; Cameron, 1; Iberia, 4; Plaquemines, 1; St. Landry, 1; St. Martin, 1; St. Mary, 1; and West Feliciana, 1.

SOUTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CAMERON MEADOWS—		
Magnolia, Cameron Meadows 15	99	5252
GILLIS—		
Union Sulphur, Barbee 6	824	6733
Castle 5	¶3	6046
JENNINGS—		
Port City Oil Co., Haywood 17	240	2105
ROANOKE—		
Shell, Carter 2	600	8680
SULPHUR—		
Union Sulphur, Fee 820	600	3177
VINTON—		
Wilson Broach, Strip 18	*	4347
EAST FELICIANA PARISH—		
Thompson Creek Oil Co., Fanny Noland 1, sec 70-1s-1w	*	1589

*Failures; †Junked; ¶Million cu. ft. gas.

Too Much Gas

RODESSA OPERATORS WARNED BY STATE TO REDUCE RATIO

WEEKLY STAFF REPORT

Shreveport.—Ten new producers were completed last week in the Rodessa field to bring the total in that district to 105, 2 of which are on the Cass County, Texas, side of the field. Seventeen new locations were announced. None of the wells extended production materially.

With Rodessa having 50 tests drilling, 8 tests rigging and 15 other locations listed as "active," the question of arriving at a satisfactory oil-gas ratio for the field is the subject of study by the Minerals Division, Louisiana Conservation Commission. This commission has warned several companies operating in the field that too much gas is escaping at the wells in connection with the production of oil. Practically every well in Rodessa makes over one million cubic feet of gas daily and some of them several million daily along with the oil production and this has created a serious problem for the field due to fear that pressure may be lowered. The escape of an estimated one hundred million or more feet of gas daily which is being burned is arousing this fear. A few companies are running the gas to extraction plants but this is the exception rather than the rule.

Lack of sufficient personnel in the department supervising the field has hampered the handling of this problem. Deputy Supervisor David B. McConnell in charge of the field has only one agent helping him regularly and one additional agent has been assigned there recently. With completions now averaging one or more daily their hands are full with gauging and checking of runs to see that they are within the allowable of 400 barrels per well.

Ten operatives from the state supervisor of public accounts office are maintaining a vigil to prevent running of "hot oil" but these are non-technical men and have no connection with the operating supervision of the field. The agents of the conservation department are trying to catch up with their work of gauging producing wells.

Texas Well Showing

Possibility of early addition of a third oil producer on the Cass County, Texas, side of Rodessa was seen last week when United Gas Public Service Company's Jones 2, Benjamin Murry Survey, a north offset to R. W. Norton's Rives 1, John Collum Survey, the latest of the two oil producers, and a quarter-mile south of Norton's Haywood 1, Priscilla Evans Survey, logged top of the oolitic lime at 5950 feet and later was drilling in this formation at 5985 feet; elevation is 207 feet.

Cass County accounted for one of the last week's new locations, Heath Refining Company's Griggsby 1, Howard Reams Survey, on a 2.5-acre tract. Another outside location was United Gas Company's McCoy 1, NE NE 16-23n-16w, a south offset to Haynes Production Company's Zylks 1, SE SE 9-23n-16w, a producer recently completed to extend the north limits of production one mile west. United Gas Company made 5 other locations; Arkansas-Louisiana Gas Company, 3; Delta-Jones Drilling Company, 1; Tri-State Oil Company, 1; W. F. Lacey, 1; Haynes Production Company, 2; Danciger Oil & Refining Company, 1; Lyons and Neely, 1.

Of the 50 tests drilling in the field 28 are by the following companies which are leaders in operations at Rodessa: Bartex Pipe Line Company, 5; United Gas Company, 10; Arkansas-Louisiana Gas Company, 4; Haynes Production Company, 4, and R. W. Norton, 5.

The most important of the 10 producers completed last week, United Gas Company's Harris 1, SW NE NE 15-23n-16w, a fourth-mile south of Vaughn Production Company's Comegys 1, SE SE 10-23n-16w, was a small well after being treated with acid. United Gas Company's Harris 1 gauged 33 barrels per hour through half-inch tubing choke, at 6020 feet, with tubing and casing pressure each 300 pounds. The same company's V. I. Miller 2, NE NW NW 14-23n-16w, an edge well to the north, was completed at 6020 feet gauging 23 barrels per hour through half-inch tubing choke but it will be deepened 5 feet.

R. W. Norton's Tyson 3, SW SE NW Section 13-23n-16w, completed at 6066 feet gauging 35 barrels per hour through half-inch tubing choke, later turned to gas with a heavy flow of distillate, reversing what has happened several times at Rodessa that a gas well later turned to an oil well. Efforts were being made to case off the gas.

The other completions last week were: Perkins & Marr's Hunter 4, Section 13-23n-16w, gauged 30 barrels per hour through quarter-inch tubing choke at 6052 feet; Haynes Production Company's Sexton 7, Section 14-23n-16w, gauged 87 barrels per hour through open tubing at 6073 feet; Sexton 8, same section, gauged 184 barrels per hour through open tubing with 250 pounds tubing pressure and 1250 pounds casing pressure; United Gas Company's W. B. Spearman 2, Section 22-23n-16w, gauged 76 barrels per hour through

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half-inch tubing choke at 6000 feet; Bremer 5, Section 22-23n-16w, gauged 45 barrels per hour through half-inch tubing choke at 6020 feet, tubing pressure 600 pounds and casing pressure, 250 pounds; and Pelican Oil & Gasoline Company's Sexton 13, Section 14-23n-16w, gauged 35 barrels per hour through quarter-inch casing choke at 6009 feet.

The second oil well for the townsite was completed in Delta-Jones Drilling Company's Neugent 1, Section 23-23n-16w, which gauged 30 barrels per hour through half-inch tubing choke at 6008 feet, after being swabbed and rocked with gas several days and later being acidized. It was shut in after this gauge and was to be re-opened later for another gauge.

Anding & Potter are planning to build a 50-car loading rack on the Kansas City Southern Railroad at Rodessa.

DeSoto Test Quits

Another wildcat test for the oolitic lime of the Glen Rose below the anhydrite in North Louisiana was eliminated from the picture at least for a time when Alexander and associates temporarily abandoned Stell 1, Section 5-12n-16w, DeSoto Parish, at 5596 feet in dark fossiliferous shale; elevation is 245.6 feet and first anhydrite stringer was logged at 4960 feet and the last anhydrite at 5187 feet. An attempt to run an electrical tester was unsuccessful due to presence of too much salt water.

O. G. Collins and G. R. Stevens last week were leasing in townships 18 and 19 north, range 6 west, Bienville Parish near Gibsland. Tide Water Oil Company is curing titles and re-checking with geophysical units its block in township 18 north, range 10 west Webster Parish.

A double-reflection shooting unit of Gulf Oil Corporation will be moved from its headquarters at Arcadia, Bienville Parish, to Winn Parish where the company and others are engaged in a leasing campaign along the southeast flank of the Sabine Uplift.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSSIER PARISH (Sligo)—		
Producers O&G Co., E. C. Edwards 1, 27-18n-11w	*	3200
CADDO PARISH (Pine Island)—		
Simplex Oil Co., Natalie 2, 10-20n-15w	255	2205
CADDO PARISH (Rodessa)—		
Delta-Jones Drlg. Co., Neugent 1, 23-23n-16w	5000	6008
Haynes Prod. Co., Sexton 7, 14-23n-16w	7500	6073
Sexton 8, 14-23n-16w	10,000	6037
R. W. Norton, Tyson 3, 13-23n-16w	5000	6066
Perkins & Marr, Hunter 4, 13-23n-16w	10,000	6052
Pelican Oil & Gasoline Co., Sexton 13, 14-23n-16w	10,000	6009
United Gas Pub. Serv. Co., Bremer 5, 22-23n-16w	6000	6020
Miller 2, 14-23n-16w	3000	6020
W. B. Spearman 2, 22-23n-16w	5000	6000
Harris 1, 15-23n-16w	5000	6020
MOREHOUSE PARISH (Monroe)—		
J. E. Farrell et al, State of La. 11, 9-20n-4e	¶2½	2135
OUACHITA PARISH (Monroe)—		
United Gas Pub. Serv. Co., Fee 85, 31-19n-4e	¶1¾	2178

*Failures; †Junked; ¶Million cu. ft. gas.

Leasing Uplift Flank

A leasing campaign of considerable magnitude is being carried on by three companies in the vicinity of the southeast flank of the Sabine Uplift in Natchitoches, Red River and Winn Parishes. Extending from the vicinity of Campti, Natchitoches Parish, southeast of the southeast corner of township 10 north, range 5 west and thence northeast to Sikes, Winn Parish via Winnfield, Sun Oil Company, Gulf Oil Corporation and Shell Petroleum Corporation are leasing and Arkansas-Louisiana Gas Company is joining in the play in Winn Parish, having taken approximately 2500 acres of leases in township 13 north, ranges 1 and 2 west. In this latter area Gulf Oil Corporation has taken 1300 acres recently, bringing its total of leases in Winn Parish alone to over 8000 acres.

Jackson Parish

In Jackson Parish in the North Louisiana Basin, Arkansas-Louisiana Gas Company is leasing around Section 6-14n-3w, and Sun Oil Company in the same parish is leasing in townships 14 and 15 north, ranges 3 and 4 west and in 15 north, range 1 east. Magnolia Petroleum Company is leasing around Sections 34, 35 and 36-16n-1w and around Section 2-14n-2w.

In township 13 north, ranges 2 and 3 west, Winn Parish, H. L. Hunt, Incorporated, has taken approximately 1000 acres and Sun Oil Company's leases have reached a total of 7500 acres with 5500 acres recently taken in townships 12 and 13 north, ranges 1 east, 1 west, 2 west, 3 west and 4 west.

In Caddo Parish, north of Greenwood, J. P. Flournoy has assembled a block of 6000 acres centering around Section 11-17n-16w.

In DeSoto Parish, Larken & Waar of Oklahoma City, has taken over Jerry Ryan's Jackson 1, Section 1-11n-14w, spudded to 312 feet, and will deepen it to 5500 feet. Larken & Waar will get 880 acres around the test and $16,500 in dry hole assignments.

In Union Parish, John Mason, representative of Magnolia Petroleum Company, is leasing around Section 10-22n-3w, and H. W. Pratt is leasing around Section 21-22n-2w.

ARKANSAS LEASING

El Dorado, Ark. — Some leasing is under way in Miller County, southwest Arkansas. Near Fouke, A. V. Erwin who recently assembled a 4000-acre block has assigned an undivided three-eighths interest to W. N. Reagen of Long Beach, California, and a similar interest of C. A. Windham of Long Beach, California.

In the same county, Harry Alleman of Tyler, Texas, is leasing in the vicinity of Section 14-17-27 and in the same area E. R. Smith, also of Tyler, took 240 acres in Sections 17, 19, 20-17-27. C. N. Housh of the firm of Housh & Thompson has taken 1715 acres in townships 17 and 18, ranges 26 and 27.

One drilling permit was issued last week by the Arkansas Board of Conservation as follows:

Union County—Ohio Oil Company, Shreveport, Louisiana, Riley Furlough 4, located 1056 feet north and 265 feet east of center 12-17-14.

Standard Oil Company of Louisiana was authorized to plug and perforate in the Primm sand its M. W. Hardy et al 31, located 300 feet south and east of NWc lot 4 in NW ¼ 5-16-15, Smackover field, Ouachita County.

Shreveport. — Some leasing activity and considerable royalty trading still continues in East Texas counties along the southwest projection of the Rodessa Fault. In Cass County, E. C. Smith recently paid one dollar per acre for 2000 acres in the E. Baty, William S. Young and adjacent surveys.

ARKANSAS

Completion

Company, Well and Location	Init. Prod. Bbls.	Depth
UNION COUNTY—		
F. C. Henderson, Sheppard 1, 35-17-15	*	2192

*Failures; †Junked; ¶Million cu. ft. gas.

OFFER BONUS

Mississippi plans cash reward for oil wells

Jackson, Miss.—Several bills affecting the oil and gas industry have been introduced in the session of the Mississippi legislature now under way.

Senate Bill No. 433 was introduced and is now before the committee on conservation of natural resources provides a reward of $35,000 for any operator or company completing the first 50-barrel oil well making 20 gravity or better in the state of Mississippi; $50,000 for the first 100-barrel well; $75,000 for the first 200-barrel well and $100,000 for the first 250-barrel well.

House Bill No. 417 appropriating $7500 for the next two years for the operation of the State Oil and Gas Board (conservation department) was held in the house for re-consideration before being voted upon and sent to the upper chamber. Efforts are being made to increase the amount to $9000 the same as the appropriation for the last biennial period. The house has passed a bill to appropriate $13,860 for 1936-37 for the Mississippi State Geological Survey.

Senate Bill No. 330 is before the lower house for consideration, this bill providing $115,000 for the drilling of two oil tests and seven gas tests on 1320 acres of state-owned land in and near the Jackson gas eld.

Another bill introduced is senate Bill No. 416 which would increase the membership of the State Mineral Lease Commission's membership from three to five by adding the state geologist and the supervisor of the state oil and gas board to the commission.

Eastern Lea County

SANDY LIME DEVELOPMENT ASSUMING MORE IMPORTANCE

WEEKLY STAFF REPORT

Hobbs. — Exploratory work in the sandy-lime belt in eastern Lea County is rapidly assuming important proportions. New completions the past week increased the total number of oil producers in the South Eunice area to 5, and there are 7 operations underway on offset locations to producers, or in close proximity.

Oil production in commercial quantities promises to extend over a wide belt in a north and south direction. A few completions have been scored in the south portion of the county. All completions to date have registered a comparatively small initial, and generally require a heavy charge of nitro to convert into commercial producers, Operators anticipate the opening of more prolific areas as development spreads, but for the time being must be content with wells that settle to their maximum proration quota of 117 barrels daily each. Humble Pipe Line Company is providing market outlet for the district.

Skelly Oil Company reported 2 new producers in process of completion the past week. The company is about to conclude its original 8-well drilling program, but each of its successful completions will require from 1 to 3 offsets. Skelly Oil Company's J. U. Baker 1, C SE SW 22-22s-37e, southeast diagonal offset to N. G. Penrose and Rowan-Nichols Oil Company's Will Cary-Humble 1, first completion for the South Eunice area, flowed 151 barrels of oil on 13-hour gauge after nitro shot at 3590 feet. Production dropped to less than the allowable later in the week. Penrose et al have made location to drill Will Cary-Humble 2 as a north offset, and Continental Oil Company and The California Company's Elliott 1, a west offset, is rigging up.

In the south portion of the South Eunice area, Skelly Oil Company's R. R. Simms 1, C SE SE 4-23s-37e, about three quarters of a mile southeast of nearest production, is rated at 100 barrels flush yield after nitro shot at 3669 feet. The shot failed to explode within a reasonable period, and J. T. Donovan, driller, was killed when the sand line was hurled into the derrick. Skelly Oil Company's E. L. Steeler 1, C NW NE 17-23s-37e, 1½ miles south of production, missed the oil pay, and has been completed as a 2,800,000-foot gasser after plugging back from water at 3810 feet to 3758 feet. Nitro and acid were used unsuccessfully in trying to develop oil production from oil showings logged below 3505 feet.

Gulf Oil Corporation's A. L. Christmas 1, C SE SE 27-22s-36e, wildcat situated 2 miles southeast of the Eunice field, logged white crystaline lime, carrying water, from 4010 to 4310 feet, and has plugged back to 3625 feet to try and complete as a gasser. It was rated at 5,000,000 cubic feet of dry gas daily on drill stem test at 3209-3363 feet. Seven-inch pipe was cemented at 3209 feet. The surface elevation is 3521 feet.

New Locations

Seven new locations were staked in Lea County the past week. Monument field was assigned seven, while one each was credited to the South Eunice and Hobbs field. Gulf Oil Corporation's North Grimes 4, located 1350 feet from south and west lines of Section 21-18s-38e, is an odd location for the east flank of the Hobbs field. Sun Oil Company's McKinley 1-B, SWc, NE 20-18s-38e, east border location at Hobbs, tested 95 percent water when swabbed at 4242 feet, or 585 feet sub-sea. The hole was plugged back to 4215 feet and treated with 3000 gallons of acid, resulting in a nominal flow by heads. Pumping equipment has been ordered installed.

New locations in the Monument area included Amerada Petroleum Corporation's State 3-J, C NE SW 2-20s-36e, and Chas. H. Weir 3, C NW SW 35-19s-36e. Both offset production on the southwest flank of the field. Gulf Oil Corporation's State-Lucy 1, C SW NW 29-19s-37e, and Continental Oil Company and The California Company's H. M. Britt 2-A-6, C NW SW 6-20s-37e, are on the west side of the field. Shell Petroleum Corporation has moved in rotary to drill State 2-B, C NW NW 36-19s-36e.

Monument Completions

Late completions in the Monument area include Amerada Petroleum Corporation's State 1-L, C SW NW 20-19s-37e, flowing an average of 64½ barrels of oil per hour on 6-hour open tubing gauge after using 4000 gallons of acid at 3996 feet. Gulf Oil Corporation's State-Graham 1-D, C SW SE 19-19s-37e, encountered water in drilling to 4027 feet, and has been plugged back to 3985 feet, or 328 feet sub-sea, to treat with acid. It is an inside location for the northeast portion of the field. The same company's Chas. H. Weir 1, C NE NE 35-19s-36e, responded to second treatment with 3000 gallons of acid at 3978 feet, or 345 feet sub-sea, and flowed 5 barrels hourly, including 4 percent water. Repollo Oil Company's J. H. Williams 1, NEc 33-

19s-37e, 2 miles east of production, swabbed a small amount of oil with a high percentage of water after second acid treatment at 4153 feet, corrected measurement, or 566 feet sub-sea, and is installing pumping equipment.

Movement of Lea County crude through Shell Pipe Line Corporation's 41mile 10-inch carrier, extending from Eunice district to Hendrick station on its West Texas system, began February 26. Gulf Refining Company's 65-mile 8-inch line, which parallels the above unit, will be in operation shortly.

Cooper Extended

Productive limits of the Cooper field were broadened one location to the northeast by General Crude Oil Company and Magnolia Petroleum Company's State 1-F, C SW SW 2-24s-36e. The lime zone cored below 5½-inch casing seat at 3505 feet was tested at intervals, and at 3590 feet, or 204 feet below sea level, the well flowed 30 barrels of oil in 11 hours, with gas rated at 1,200,000 cubic feet daily. The well has since been treated with 2000 gallons of acid. Development of the Cooper field has almost been completely suspended because of the flooding of the oil horizon with sulphur water.

W. L. Todd, Inc., et al's Lemon 1, C NW SW 17-21s-32e, wildcat on a Tide Water Oil Company's permit in western Lea County, has drilled to contract depth of 3700 feet. Salt series were logged at 1232-3360 feet, indicating a probable high structural position for the area, but the interval between the base of the salt and first stringers of lime, logged at 3470-88 feet, thickened considerably. No oil or gas showings were recorded.

SASKATCHEWAN

Drilling on Devonian lime test to start soon

As soon as weather permits, drilling will be resumed at 1600 feet on a wildcat having as its objective the Devonian lime at Vera, 15 miles west of Unity, Saskatchewan, Canada, according to a communication received by THE OIL WEEKLY from Vera Oilfields, Limited.

Two wells have been drilled in the Unity district. One is furnishing gas for the present test, and the other, abandoned because of mechanical difficulties, encountered a show of oil which was believed to have come from Devonian lime at around 2100 feet.

Good Deepening Job

ROCK RIVER WELL FLOWS 1400 BARRELS FROM SUNDANCE

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo.—The best completion to date in deepening jobs to the new lower Sundance pool underlying the old Rock River Dakota horizon field of Carbon County, central Wyoming, was recorded this week. Ohio Oil Company's Harrison-Cooper 3, NWc S½ 35-20n-78w, made an initial production of 1400 barrels daily from the lower Sundance sand, logged at 3156-3228 feet. The well is an old Dakota producer completed at 2808 feet in 1920 for 1400 barrels initial.

The company is starting another deepening operation in Rock River in State 1, SEc NE 34-20n-78w, which will be drilled down to the Sundance from old total depth of 2894 feet in the Dakota. Ohio Oil Company's Harrison-Cooper 8, SW SW 35-20n-78w, is a near completion cementing the 4¾-inch liner at 3320 feet with hole bottomed at 3374 feet in saturated Sundance.

In the Big Medicine Bow field, Ohio Oil Company, joint with The California Company, has a well ready to complete in Union Pacific-Account 1, NE SW SW 24-21n-79w, Carbon County, which is cementing 5 3/16-inch liner at 5381 feet preparing to produce from the first Sundance at 5259-5300 feet and the second Sundance at 5381-5470 feet.

On Quealy Dome, Albany County, The California Company is drilling at 3048 feet in Holst 3, NW SW SE 13-17n-77w, a first test to the Sundance in the Quealy field where production was developed last year in the Dakota sand. Quealy was one of Wyoming's five 1936 discoveries.

In the Lance Creek field four wells are underway. Argo Oil Company's Elliott 6, CSE SW 5-35n-65w, is drilling at 3128 feet, and same company's Elliott 7, CNE SW 5-35n-65w, is spudding. Ohio Oil Company's Converse Sheep Company 5, CSE SW 32-36n-65w, is drilling at 2230 feet and Agnes Rohloff 3, SW SE NE 32-36n-65w, on the Sundance discovery lease, is rigging up rotary.

Four-Mile Extension

An oil well completion is expected this week in Kinney-Coastal Oil Company's Government 3, SWc NE 24-56n-98w, four-mile extension to the Garland anticline of the northwest Park County end of the black oil structure. Packer is being run to 4235 feet between the gas sand, logged at 4185-4230 feet and the oil sand at 4235 to 4338 feet total depth. The well cored 75 feet of saturated oil sand in the Tensleep and if it makes an oil well will bring in the

MOUNTAIN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY: (Cut Bank Field)—		
Montana Power Co., Whetstone 2, sw ne 8-33n-5w	15	2865
NEW MEXICO		
EDDY COUNTY: (Jackson Field)—		
D&B Oil Co., Jenkins 1, sw nw 20-17s-30e	100	3258
LEA COUNTY (North Jal Field)—		
Repollo Oil Co.'s T. M. Conditt-Pure 3, nec nw sw 12-25s-36e	1000	3387
LEA COUNTY (South Eunice Field)—		
Gulf Oil Corp.'s State-Arnott-Ramsey 4-C, c sw nw 21-21s-36e	1208	3919
Skelly Oil Co.'s E. L. Steeler 1, c nw ne 17-23s-37e	¶2¾	3810
LEA COUNTY (Monument Field)—		
Amerada's State 1-L, c sw nw 20-19s-37e	1500	3996
Gulf Oil Corp.'s State-Graham 2-B, c ne se 2-20s-36e	4500	3915
LEA COUNTY (Wildcat)—		
Crafton Oil Co.'s W. L. Todd, Inc., M. A. Hair-Humble 1, c sw nw 11-24s-37e	35	3760
WYOMING		
CARBON COUNTY: (Rock River Field)—		
Ohio Oil Co., Harrison-Cooper 3, northwest corner 35-20n-78w	40	3228
COLORADO		
LARIMER COUNTY: (Round Butte Structure)—		
California Co., State 1, se sw ne 6-11n-68w	*	3242

*Failures; †Junked; ¶Million cu. ft. gas.

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Tensleep sand as an oil pool at Garland.

Paul Stock's Allen 1, SE NW SE 35-56n-98w, Big Horn County side of the Garland field, is fishing for drill pipe at 3818 feet with an estimated 40,000,000 cubic feet of gas blowing wild. Peay Oil Company's Denio 1, CNE NE 15-55n-97w, Big Horn County, south Garland fault block, is drilling plugs with the production string cemented at 3800 feet.

Ohio Oil Company's Charlotte Lindsey 1, CNW NE 23-56n-97w, Byron field, Big Horn County, swabbed 450 barrels in the first 24 hours and is installing pumping equipment to complete in the Embar logged at 4490-5027 feet. The company's Byron-Union 4, CSW NE 2-56n-97w, is coring the Embar at 5630 feet and should be an early completion.

FLOW INCREASED

Showing makes Sunburst look good at Cut Bank

Cut Bank, Mont.—Interest in the Cut Bank field is centering around three wells in the northwest extension area, one a completion with its flow increased to 2000 barrels daily, one a near-completion, and a third starting.

Santa Rita Oil & Gas Company's Landers 1, CN½ SE 16-35n-6w, which started off at 900 barrels daily on January 26 has increased in flow to 2000 barrels. The well is the record completion for Cut Bank and is the first commercial well in the field to complete in the Sunburst sand at 2850-65 feet. Observors believe that the well may point to a possible large Sunburst pool to the west and north of present production, but fear market troubles if such production is developed, as all ready the field is over produced and voluntary proration is being practiced by some operators who are demanding full proration of the field by the Montana Oil Conservation board. Cut Bank oil is bringing $1.50 per barrel.

The Texas Gompany's Fee 5, center west line SW SW 16-35n-6w, is at a critical depth cementing the seven-inch production casing on top of the Sunburst sand at 2777 feet. The well is three quarters of a mile southeast of Landers 1. Santa Rita Oil & Gas Company's Tribal 6, center of the east line NE SE 15-35n-6w, a quarter of a mile due east of Landers 1, is drilling with rotary at 516 feet.

Work Resumed

One well, a failure, was the only completion as 5 new wells started with improved weather conditions after several weeks of sub-zero temperature in Glacier County. Montana Power Gas Company's Simero 1, SE SE 30-34n-5w, was a failure at 2767 feet after getting only a show of oil in the Cut Bank at 2720-2747 feet.

New operations are: Montana Power Gas Company's Coburn 2, NW NE 8-33n-5w, and Eisler 1, SE NE 5-33n-5w, locations; Par Oil Company's Haines 6, NE SE SW 2-34n-6w, spudding; R. C. Tarrant's Reichoff 2, NE SE 3-34n-6w, rigging up; and Lon Crumley's Tribal 1, CSW SE 31-33n-5w, location.

Maricopa Flats

1200-BARREL WELL STARTS DRILLING CAMPAIGN

WEEKLY STAFF REPORT

Los Angeles.—Completion of C. J. Gibson's O'Brien 1 at Maricopa Flats, Kern County, has touched off a spark that gives promise of a drilling program of major proportions.

O'Brien 1, CSE 6-11-23, was completed for an estimated flow of 1200 barrels a day of 23.7 gravity oil, 200 pounds tubing pressure, 750 pounds casing pressure, flowing through a 14/64-inch bean. The hole was drilled to 2816 feet, with 8⅝-inch casing cemented at 2775 feet. Eighty-one feet of 6⅝-inch liner, including 52 feet of perforated, was landed at 2816 feet.

The equal of such performance, in this area, has been unknown for many years. The productive section of the Maricopa shales in this field was thought to have been thoroughly explored. Maricopa Flats is one of the older fields of the Valley. Recent completions have yielded a normal initial production of 100 to 150 barrels a day.

C. J. Gibson Company has plans for the immediate drilling of three additional wells. Its leases are contiguous to ones held by Union Oil Company, General Petroleum Corporation, Shell Oil Company and Standard Oil Company.

Interest in prospect holes in the San Joaquin Valley is widespread. Kern, Kings and Fresno Counties have important tests that are encountering favorable indications.

In Kern County, Ohio Oil Company's D-1, Section 1-30-25, 15 miles west of Bakersfield, has been drilled to 2640 feet. Oil showings have been cored in the bottom of the hole and preparations are being made to make a formation test of these showings.

Seaboard Oil Corporation's Lillis-Welch 1, Section 30-16-14, 25 miles northwest of the Coalinga field, has cored some interesting oil sand at 3042 feet. These showings occur in the basic Temblor section and are considered as significant and indicates a favorable structural location of this venture.

In the Trico area, Kings County, Standard Oil Company's Tulare-Farms 1, Section 34-24-23, is 3308 feet deep, plugged to 2415 feet and 8⅝-inch casing is cemented at 2415 feet. A test of the first Mya zone (basic Tulare) will be made, which was cored at 2428 feet.

Hancock-Union Oil Company's Giannini 1, wildcat test for gas, Section 28-22-20, 12 miles east of Kettleman Hills North Dome, has been drilled to 3135 feet. Formation tests have demonstrated a small amount of gas. A rate of 2,000,000 cubic feet was obtained on

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a recent test. The hole is being cored ahead for a test of deeper formations.

Union Oil Company's Gibson 7, deep test of the North Belridge field, Section 36-27-20, tested wet on a production test and the operators are determining the point of entrance of the water before further testing. Total depth of the hole is 9492 feet, with 4¾-inch casing cemented at 9205 feet. The hole was plugged to 9265 feet during the production test.

Hogan Petroleum Company's Peters 1, southern extension test of the southeast area of the Mountain View field, Section 5-31-29, was turned into the production tanks March 9, flowing 2291 barrels a day of 31.6 gravity oil. There are 380 pounds on the tubing, 960 pounds on the casing and the well is flowing through a 1-inch choke. The hole was drilled to 6048 feet, with 8⅝-inch casing cemented at 5745 feet. A 5¾-inch liner was landed at 6048 feet which included 278 feet of perforations. The production is obtained from both the Chanac and Santa Margarita sands and indicates a southern extension of productive sands along the Mountain View fault.

Two eastern extension tests of the Mountain View field have been unable to register sustained production, although oil sand has been cored and some production has been obtained. Buffalo Oil Company, NWc Section 19-30-29, was drilled to 5117 feet, with seven-inch casing cemented at 4812 feet, in oil sand and gray sand, top of Santa Margarita was cored at 5090 feet and plugged back to 5080 feet. The well has produced for a few hours at a 500-barrel a day rate. The well sands up and the operators are now attempting to correct this difficulty.

Sheldon Oil Corporation's Ross 1, Section 19-30-29, is bottomed at 4966 feet, with 8⅝-inch casing cemented at 4891 feet, in oil sand. Efforts to produce this well have not been successful, due to insufficient saturation of the sand. The hole is to be deepened.

Shell Oil Company is conducting what many believe to be a test of the most important wildcat venture now drilling in the state. Branch 1, Section 34-24-23, West Pleyto district of Monterey County, has been drilled to 7330 feet and seven-inch casing cemented at 7250 feet. Significant showings were cored in the lower part of the Temblor section from 7275 feet to bottom. A water shut-off has been approved on the seven-inch casing and the hole is being cleaned out preparatory to running tubing and swabbing for production.

Continental Oil Company's Hobson 1, Section 15-3-24, discovery well of the new Javon field, has been officially completed for 354 barrels a day of 37.0 gravity oil, cutting 13.3 percent. The tubing pressure was 250 pounds, 1000 pounds on the casing, flowing through a 30/64-inch bean. The well was drilled to 5501 feet, with 6⅝-inch casing cemented at 5415 feet, perforated in the hole, 5300-5240 and 5160-5192 feet, and 110 feet of 4¾-inch liner, including 86 feet of perforations, was landed at 5501 feet.

Redondo Beach is to be the center of a town-lot boom because of the completion of Dumas-Lewis Oil Company's well for 460 barrels a day of 17.9 gravity oil. Total depth is 3735 feet, with 8⅝-inch casing cemented at 3185 feet and a 6⅝-inch liner, including 481 feet of perforations was landed at 3730 feet.

This area is not strictly wildcat, but rather is an extension of the Torrance field. Redondo has prohibited oil well drilling within its city limits. A recent lifting of this ban has encouraged drilling with the result of the completion of this producer.

Universal Consolidated Oil Company's Nutt 3, Montebello field eastern extension, was swabbed in through 2½-inch tubing, hung at 5725 feet, for 1400 barrels a day of 39.0 gravity. Tubing pressure is 430 pounds, 1040 pounds on the casing, flowing through a 44/64-inch bean, along with 12,000,000 cubic feet of gas. Several locations are being made in the area.

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SPANG

CABLE TOOLS

CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DOMINGUEZ—		
Union, Callender 43	835	6670
MONTEBELLO—		
Universal Con. Oil Co., Nutt 3	1540	5863
TORRANCE—		
Dumas-Lewis Oil Co., Redondo 1	200	4750
EDISON—		
Berry Oil Co., Grayson 2	105	1942
KERN FRONT—		
Vega Oil Corp., Vega 1	135	1724
MIDWAY-SUNSET—		
Standard, M.J.M.&M. 64	405	2620
JAVON CANYON—		
Continental, Hobson 1	400	5501
KETTLEMAN HILLS—		
Associated, Whepley 5	*	8387
FRUITVALE—		
Standard, Kern Co. L and 5-2	*	4777

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbbls.	Depth
OHIO		
ATHENS COUNTY—		
Ohio F G Co's Kinney 1	¶	1106
C. Parks & Co.'s Young 1	¶	1033
MEIGS COUNTY—		
Ohio F G Co's Bryant 1	¶	750
Hayes 1	*	2004
Avery Roberts' Hart 1	*	1031
A. N. Bengel's Wollason 1	*	2119
MORGAN COUNTY—		
Kepple & Co's Vanfossen 1	*	1588
MONROE COUNTY—		
Stout & Schafer's Keevert 1	¶	2188
MEDINA COUNTY—		
O. K. Oil & Gas Co's Essig 70	2	398
Ohio F G Co's Rose 2	¶	3293
COSHOCTON COUNTY—		
Graham Bros.' Jones 2	*	875
LICKING COUNTY—		
Hope Const & Refg's Baughman 1	8	600
JEFFERSON COUNTY—		
Featner & Co's Crabbit 1	*	
WAYNE COUNTY—		
Ohio F G Co.'s Finley 1	¶	3037
PERRY COUNTY—		
Ohio F G Co's Snider 2	¶	3051
FAIRFIELD COUNTY—		
City Nat Gas Works' Monahank & Bougher 2	¶	2025
HOCKING COUNTY—		
Hope Const & Refg's Dunlap 8	5	3611
WASHINGTON COUNTY—		
H. Bineger's Moore 6	*	1967
Local Co's Rech 5	*	1025
TUSCARAWAS COUNTY—		
Capital Dr Co's Asher 6	¶	3732
BELMONT COUNTY—		
A. J. West's Perkins 1	*	1522
GUERNSEY COUNTY—		
Beabout & Co's Cambridge 1	6	3503
William Larrick & Co's Quillan 8	¶	1292
George Jewell & Co's Turnbaugh 2	¶	1075
WEST VIRGINIA		
CLAY COUNTY—		
Virginia G & O Corp's Brown-Swan Co 30	25	1860
Brown-Swan Co 31	12	1980
CALHOUN COUNTY—		
Ferrel & Cain's McCartney 1	*	
ROANE COUNTY—		
Paul Weekleifs' Brisentine 1	¶	1930
L. L. Reed's A. J. Hinzman 1	5	1535
BOONE COUNTY—		
Owens-Illinois' Peytona Land Co 25	¶	2445
Pond Fork O & G, Cole & Crane 22	¶	
RITCHIE COUNTY—		
Moats, Richard & Co's Stout & Jackson	¶	1900
CALHOUN COUNTY—		
Massey & Jarvis' Homer Miller 1	¶	1788
INDIANA		
DECATUR COUNTY—		
Hoosier Public Service's Ernst 1	¶	
DELAWARE COUNTY—		
F. M. Crapo's Crapo 1	¶	
HANCOCK COUNTY—		
J. Harve Snider's Low 1	*	994
VANDERBURG COUNTY—		
Southern Indiana Gas' Knapp 1	10	909
DAVIESS COUNTY—		
Indiana S. W. Gas Corp's Hunter 1	*	863
HUNTINGTON COUNTY—		
E. Lantz's Wiley 3	*	982
LAWRENCE COUNTY—		
J. F. Imler's Weybright 1	¶	643
MARION COUNTY—		
Birt Kinnaman's Pickle 1	*	
MADISON COUNTY—		
A. Laws' Laws 1	¶	
MARTIN COUNTY—		
Sage & Oliphant's Greenwood 2	¶	
PERRY COUNTY—		
Haney & Hollingsworth's Jarbo 1	*	619
Staves Drilling Co's Harth 1	¶	539
Gardner Oil Co's Van Winkle 1	*	
Floyd Triggle's Flamore 1	*	451
PIKE COUNTY—		
Indiana S. W. Gas Corp's Harmon 1	¶	
SPENCER COUNTY—		
Petroleum Exploration's Heller 1	*	
Ohio Oil Co's Varner 2	*	898

*Failures; †Junked; ¶Million cu. ft. gas.

Return Brine

CRYSTAL-FERRIS PLAN TO STOP POLLUTION

WEEKLY STAFF REPORT

Mt. Pleasant, Mich. — The use of abandoned flank wells or specially drilled wells as return points for salt brine in the Crystal-Ferris field, Montcalm County, may prove practicable, according to the Michigan Producer's Committee.

Tests recently conducted on the Voorhees-Duffield well, Section 25, Ferris township, showed a return rate of 250 barrels of brine per hour to the Dundee-Monroe formation, a lime strata. The brine was returned by gravity without pump pressure. Further tests are being made on this well and other abandoned wells also are to be experimented with.

The field is producing approximately 10,000 barrels of brine, according to state estimates, or about barrel for barrel of oil. Protests of downstream cities against river pollution and the apparent impracticability of ponding makes the method now under test one of prime importance.

In the Porter field, brine is being adequately handled by piping to Dow Chemical Company's plant at Midland, but due to the fact that the Crystal field is far removed from the chemical plant such a plan has not been regarded as feasible.

Tax Saving

The State Board of Tax Administration in a ruling last week exempted from the state three percent sales tax "processing" equipment and supplies used in the oil and gas industry.

The exemption applies to drive pipes and casing, all pumping equipment as tubing, valves, rods or cables, pumps, pump jacks, pumping engines, also equipment used in treating crude oil, such as boilers, tanks, coils and pumps for pumping oil from treating tanks to storage tanks, also chemicals where they are used for treating, also explosives and acids used for shooting or treating wells.

The ruling does not exempt timbers and other materials used in the construction of derricks, or materials and supplies used in the construction and operation of gathering lines.

Henry G. Hunt, executive secretary of the Oil and Gas Association of Michigan, said the exemptions would mean annual savings of thousands of dollars to producers.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MECOSTA COUNTY—		
Ladd & McKnight, Miller A-1, 13n-7w, c sw se-34	¶3.3	1296
MIDLAND COUNTY—		
Pure Oil Co., Root C9, 13n-1w, nw ne nw-20	50	3429
Bond A7, 13n-1w, ne nw ne-18	110	3430
Miller B3, 13n-1w, nw ne ne-18	50	3428
Balch 1, 13n-2w, c sw se-2	170	3440
MONTCALM COUNTY—		
Superior Drilling Co., Eckert 1, 12n-7w, c sw ne-10	¶30	1290
Daily Crude Oil Co., Fulford 1, 11n-5w, sw nw sw-36	300	3221
OGEMAW COUNTY—		
Redman Oil Co., Wobig 3, 21n-3e, nw nw se-6	20	2610
T. F. Caldwell, Inc., Myas 1, 22n-2e, se sw ne-19	50	2730
SAGINAW COUNTY—		
Pure Oil Co., Blumer 1, 12n-1e-sw sw sw-10	*	3450

*Failures; †Junked; ¶Million cu. ft. gas.

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HOUSTON, TEXAS

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

FRANKLIN COUNTY—P. J. McAlpine et al's Hobson et al 1, 26-8s-14w, elev 559 ft, shot again with 60 quarts explosive, co td 2589 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Estate 2, 9-3n-29e, arr set surf csg, td 100 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15s-16w, elev 503 ft, shot with 75 quarts explosive 3118-35 ft, small show heavy black oil, co, old td 4900 ft lime.

ARKANSAS

ASHLEY COUNTY—Seaboard Oil Co.'s Fee 2, nw ne 28-17-4, 10-in csg 600 ft, dr 1589 ft.

CALHOUN COUNTY—Ben Barnett's Freeman Smith 1, se nw sw 36-15-14, dk and mir.

CRAWFORD COUNTY — Trumbo et al's Craddock 1, c nw ne 3-11-30, rur.

HEMPSTEAD COUNTY—Dixie Drlg. Co.'s Vada Wheatley 1, nw sw ne 14-11-26, sd for surf csg. Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-32w, rur. May & Easton's Conway 1, ne sw 20-12s-27w, 12½ in csg 80 ft. F. W. Martin's Lafferty 2, se nw 17-14-24, setting csg after reported sg, 1985 ft.

LA FAYETTE COUNTY—Erwin & Leach's Bodcaw Lbr. Co. 3, nw nw 20-16-23, elev 250 ft, 13⅜ in csg 330 ft, hole cleaned at 4091 ft, arr deepen 4150 ft. Joe Modisett et al's Frost Lbr. Co. 1, 29-19-24, elev 261 ft, 9⅝ in csg 1960 ft, arr deepen 2661 ft. Transportation Pet. Co.'s Cochran 1, ne se 25-19-25, arr core 3468 ft.

MILLER COUNTY—Odell Hinson's Montana Realty Co. 1, ne nw nw 3-17-28, rur. J. W. Jones et al's Bush 1, ne ne 2-19-27, mir. King Oil Corp.'s Crank 1, sw nw 19-16-25, woc 4000 ft. C. V. Lenz's Dale 6, 24-16-26, spd.

OUACHITA COUNTY—Griggsby & Aarnes' Burris 1, sw nw ne elev 244 ft, sd repr rig 3820 ft. Phillips Pet. Co.'s J. D. Reynolds 1, se nw 27-15-15, 13⅜ in csg 619 ft, top red beds 2800 ft, dr 3480 ft. W. B. Street's Rath & Cartier 1, sw sw ne 33-13-18, elev 378 ft, 7-in csg 1398 ft, top Blossom 1991 ft, cored sw sand test 1991-97 ft, sd 1997 ft.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 1, ne nw 13-17-15, 10-in csg 400 ft, dr 887 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so & g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south east, west.*	
oih—*oil in hole.*	

CALIFORNIA

FRESNO COUNTY

MONOCLINE RIDGE—Seaboard Oil Corp.'s Lillis Welch 1, 30-16-14, dr sand streaks tar, 3041 ft.

COALINGA—Jas. M. Conlon Co.'s No. 1, 30-19-15, td 771 ft, wocs 8⅝-in at 585 ft.

CURRY MOUNTAIN—Standard's No. 1, 36-21-14, lcn.

KERN COUNTY

BELRIDGE—Albert Beck's Beck-Bacon 1-35, 35-28-20, sd 1652 ft.

COMANCHE POINT—Shell's Bank One 1, 15-32-29, sd 5394 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 2182 ft, bad roads.

DELANO—John W. Alford's Quinn 1, 14-25-27 (was Cimarron Oil Co.) td 2399 ft, to deepen.

DEVIL'S DEN—Cumberland Oil Co.'s Mabry 2, 17-26-18, sd 4461 ft.

EDISON—Navy Oil Co.'s Caraoil 1, 19-30-30, td 1447 ft, pumping water, trace of oil.

FRUITVALE—Mullane & Hall's Truesdell 1, 14-29-27, sd 2804 ft.

GRAPEVINE—Reserve O&G Co.'s No. 1, 33-11-19, td 6030 ft, preparing to redr. Silver Gate Co.'s Tejon 1, 7-10-19, td 2985 ft, redr at 2414 ft.

LOST HILLS—Standard's United 1, 2-26-20, dr hard sandy gray shale 6198 ft.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, dr gray sand 3249 ft.

McKITTRICK—Belmac Dr. Co.'s Douglas 1, 22-29-21, td 4800 ft, fsh.

McVAN—Tom Balles' No. 1, 11-27-26, rig. S. D. Brown's No. 1, 22-27-27, grade.

MIDWAY-SUNSET—Superior's B. V. A. 1, 6-32-25, foundations.

MOUNT POSO—Stabeck & Gardner's Glide 1, 31-27-28, sd 750 ft.

MOUNTAIN VIEW—Standard's Garcia 1, 13-30-28, dr shale 5503 ft. Treasure Oil Co.'s No. 1, 12-30-28, rur.

NO. POSO CREEK—H. Mann's No. 2, 27-26-28, td 1400 ft to recement 10¾-in at 1360 ft. Santa Carla Oil Co.'s Glide 1, 7-26-28, sd 900 ft.

STRAND — Ohio's No. D-1, 1-30-25, sand showing oil and gas, to run formation tester 2640 ft.

SO BUTTOW WILLOW—General's No. 1, 5-30-24, td 5871 ft, recovered fish, co.

STEVENS—Shell's K.C.L. 1, 29-30-26, dr hard sand and clay 6110 ft.

TERRABELLA—Kabella Oil Co.'s Briggs 1, 12-23-27, td 887 ft, rigging cable tools to dr deeper.

WHEELER RIDGE — Reserve O&G Co.'s Tejon 5, 2-10-19, sd 2580 ft.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, dr sand 868 ft.

KINGS COUNTY—Associated's Avenal 1, 35-23-17, lcn. Royalty Service Co.'s No. 1, 16-24-18, dr shale sg 3125 ft. Standard's Tulare Farms 1, 34-24-23, td 3308 ft, plug 2415 ft, to test Mya zone. Commonwealth Consol. Gas Co.'s No. 2, 21-22-20, sd 2460 ft. Hancock-Union's Giannini 1, 28-22-20, td 3135 ft, ran formation tester, recovered gassy water and mud, blew

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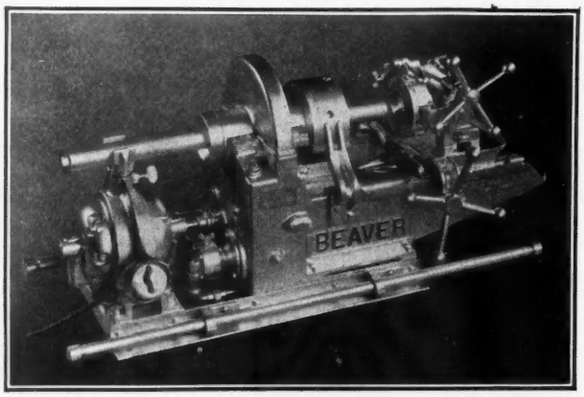

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gas from 2082-3015 ft. Kettleman View O&G Corp.'s No. 1, 29-22-19, dr gray sand 1600 ft.

MERCED COUNTY—J. R. Murrell's No. 1, 8-10-9, dr sand and shale 1574 ft.

SAN JOAQUIN COUNTY — Amerada's F. D. L. 5, 15-2-5, td 4020 ft, top Banoche 3920 ft, higher than in No. 4. Standard's McDonald 1, 25-2-4, rur.

SAN LUIS OBISPO COUNTY—Pismo Pet. Co.'s Scott 1, 5-32-13, rig. J. C. Theriot's Holland 1, 22-32-22, dr hard gray sand, so, 1852 ft. Willett Oil Assn's Jack 2, 10-25-15, sd 3647 ft. Geo. Moss' Paso Robles 1, 27-26-13, rig. United's No. 1, 2-32-21, prep to spud.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard shale 6948 ft.

TULARE COUNTY—Kenwood Pet. Corp.'s Kenwood 1, 14-24-27, sd 1595 ft.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, td 7352 ft, cemented 7-in at 7250 ft, co.

SAN LUIS OBISPO COUNTY—Birch-Royer Oil Co.'s Patchett 1, 33-31-13, td 1625 ft, to set 12½-in.

SANTA BARBARA COUNTY

CARPENTERIA—Santa Barbara O&G Co.'s Bryce 1, 29-4-25, td 3000 ft, plug 2000 ft, co to perf at 1960 ft for test.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, sd 1450 ft. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3940 ft. York Oil Co.'s No. 3, 33-8-34, grade.

ORELLA—Williams & Brown's No. 1, 34-5-31, rig.

POINT CONCEPTION—Union's Sudden 1, 10-5-35, rig.

SANTA MARIA—Union's Adam 1, 24-10-34, dr sand and boulders 760 ft.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, sd 1600 ft.

VENTURA COUNTY

BARDSDALE—Bestco Pet. Co.'s Frey 1, 2-3-19, rur. Duke Oil Corp.'s No. 1, 7-3-19, td 2000 ft, co. El Rancho Oil Co.'s Elkins 1, 9-3-19, td 3395 ft, running elec formation tester. Laing & Jacobs' No. 1, sd 1225 ft.

JAVON—Continental's Hobson 1, 15-3-24, td 5501 ft, 11¾-in set at 4425 ft, made 400 bbls 28 gravity oil, cut 13 percent, through 30/64-in bean, and 250,000 ft gas.

OJAI—Continental's Pirie 2, 12-4-23, td 1017 ft, made 6 bbls 16.6 gravity oil on test.

OXNARD—General's McGrath 2, 26-2-23, dr sand and shale 1937 ft.

PIRU—Bolsa Chica Oil Corp.'s Snow 3, 4-4-18, td 645 ft, running 13⅜-in.

SANTA PAULA — High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft.

SHIELLS CANYON — Bankline Oil Co.'s Calumet B-1, 3-3-19, td 3634 ft, pulled 6⅝-in to deepen. Petroleum Sec. Co.'s Home Ro. 1, 3-3-19, grade. Texas Co.'s Shiells 129, 4-3-19, td 3042 ft, wocs 11¾-in at 3040 ft.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, dr sand and shale 2745 ft. Jas. S. Hull's No. 1, 2-2-18, td 1440 ft, co. Paloma Oil Co.'s Paloma Marr 1, 12-2-18, sd 2806 ft.

SO. MOUNTAIN—Calco Pet. Corp.'s Calco 3, 17-3-20, td 2606 ft, wocs 10-in at 2585 ft.

TORRE CANYON—A. N. Macrate's Torrey 1, 32-4-18, sd 4093 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 7068 ft.

SOUTHERN CALIFORNIA

ARTESIA—Davis & Lewis' No. 1, 25-3-12, rig. Engler & Long's Millard 1, 25-3-12, sd 5888 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 3053 ft, plug 1450 ft, rep road.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr hard shale streak gray sand 6777 ft.

EL SEGUNDO—L. J. Marvins' Woods 1, 7-2-14, dr shale 6400 ft.

HUNTINGTON BEACH—20th Century Oil Co.'s Calnan 1, 36-5-11, td 5160 ft, plug 4500 ft, standing cemented.

KRAMER—Leaseholders Dev. Co.'s Vejar 1, 26-3-9, sd 4110 ft. Standard's Yorba Com. 1, 36-3-9, td 2714 ft, 279 perforated landed at 2653 ft, to test.

LAWNDALE — Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 8766 ft, co, trying to recover old hole.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-3-16, dr shale 1705 ft; No. 6 setting boilers.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, td 850 ft, co.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, td 6765 ft, plug 4650 ft, to perforate.

PICO CANYON—N. M. Fraser's No. 1, 31-4-15, sd 955 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, td 4250 ft, rig up to work over.

PUENTE—Chas. R. Butler's Butler 1, 14-2-10, dr hard shale sg 3564 ft.

TOPANGA CANYON—Monarch Pet. Co.'s Sylvia Park 1, 5-1-16, td 650 ft, co.

TORRANCE—Eyer Pet. Corp.'s No. 1, 20-4-13, td 3794 ft, to run 8⅝-in. Oliver McDonald's No. 1, 35-3-14, sd 4633 ft. Shell Oil Co.'s McKenna 1, 33-3-14, sd 4518 ft.

VENICE—Eastern Oil Co.'s Del Rey L. Co. 1, 22-2-15, dr shale 6000 ft.

WEST LONG BEACH—Shell's Amebco 1, 13-4-13, fsh, td 6035 ft.

WESTMINISTER — Hillman-Long's Westminister 1, 14-5-11, dr hard sand and shale.

WILMINGTON—Sovereign Oil Co.'s Banning 1, 28-4-13, rig.

YORBA LINDA—Continental's Carlton Com. 1, 21-3-9, dr sand and shale 3037 ft.

RIVERSIDE COUNTY—Albert Pet. Co.'s Watt 2, 23-7-3, td 2787 ft, plug 2200 ft, wet, sd. Fred E. Stevens' Everett 1, 27-3-7, ready to spud.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 1999 ft, co, to deepen.

COLORADO

ARCHULETA COUNTY—Wm. E. Hughes Estate Fee 4, se nw ne 24-33n-2e, dr 700 ft.

JEFFERSON COUNTY—Ruby Hill Oil Co., Braden 1, se se 24-4s-69w, dr 4415 ft.

LINCOLN COUNTY—Consolidated Smelting and Metals Corporation, Hancock 1, ne sw 7-17s-52w, co 1780 ft.

MORGAN COUNTY—Swisher et al, Lunt 1, sw sw sw 3-5n-60w, dr 1260 ft and carrying 4¾ in csg at 1200 ft.

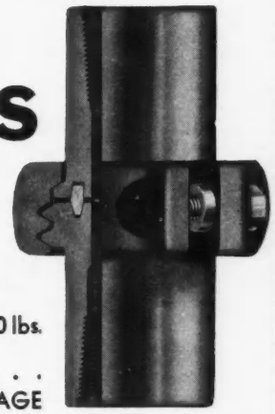
PARK COUNTY—South Park Oil Co., State 1, se se sw 16-11s-17w, dr 4000 ft and carrying 6¼ in csg.

FLORIDA

JACKSON COUNTY—Mrs. Mamie Hammonds et al's Grandberry 1, sw ne 15-5n-9w, sd 200 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, 17-24s-25e, dr 2930 ft anhydrite and bro oolitic lime.

RED REX PIPE UNIONS



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KANSAS

BARTON COUNTY—Torrey & Feaster et al's Kempler 1, se ne ne 31-18s-11w, cemented 6-in csg 3417 ft, dr cement. Morgan & Flynn et al's Amerine 1, ne ne ne 14-19s-14w, fsg 3305 ft. Morgan & Flynn et al's Zimmer 1, se se sw 30-19s-14w, dr 2170 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, sd 2030 ft. Hilligoss et al's Schmidt 1, ne ne ne 27-19s-11w, dr 2130 ft. Simpson, Noble & Atlantic's Hiss 1, cnw ne 31-20s-13w, ru. National Ref. Co.'s McLean 1, sw sw se 25-17s-11w, lcn.

COWLEY COUNTY—Roth & Farout's Sherwood 1, ne nw sw 11-31s-4e, td 3037 ft, shot 40 qts, co. Penwest's Clover 1, ne se se 8-31s-7e, sd 2825 ft. Shawver et al's Wilson 1, ne se ne 11-30s-4e, dr 1630 ft. Roth & Farout's Guthrie 1, se ne nw 30-33s-8e, ur 10-in csg 1300 ft. Morton et al's Roger 1, sese ne 1-31s-4e, report last week in error, ru. Mead Bros. et al's Orr 1, se se sw 23-31s-4e, ru mach. Shawver & Wilt's Baruth 1, sw nw ne 8-34s-3e, dr 2432 ft. Craft et al's Taylor 1, ne se nw 32-32s-3e, rig. Mickleson et al's Wallace 1, sw se se 10-33s-4e, mim. Craft et al's Whitson 1, ne ne ne 20-33s-4e, spd and sd.

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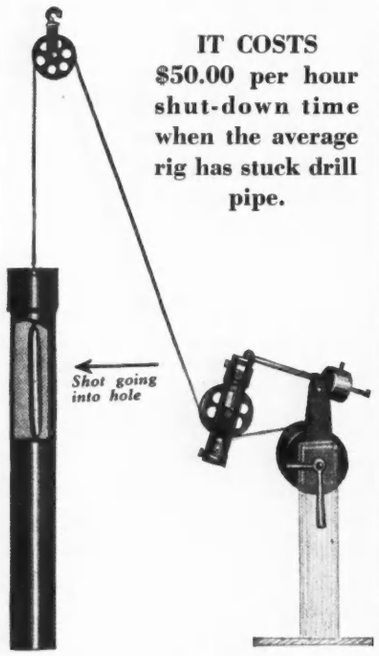

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ELLIS COUNTY—Blackwell O&G et al's Solomon 1, se se sw 28-11s-19w, mim. Twin Drlg. Co.'s Reidel 1, sw sw ne 27-13s-16w, dr 837 ft. Brunson & Ewers-Simpson's Gross 1, ne ne sw 29-14s-17w, mim. Bridgeport Machine & J. J. Hall's Madden Estate 1, ne nw nw 26-15s-18w, mim.

ELLSWORTH COUNTY — Smith-Ash & Phillips Pet. Co.'s Splitter 1, sw sw sw 19-17s-9w, dr 2525 ft. Skiles et al's Kafka 1, ne ne sw 15-17s-8w, ru. Empire O&R Co. et al's Kroesch 1, nw nw se 33-17s-9w, br.

GREENWOOD COUNTY — Mohawk Oil Co.'s Edgar 1, ne ne sw 2-28s-8e, td 2548 ft, pumped 35 bbls oil, comp.

HARPER COUNTY — Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, fsg 5009 ft.

HARVEY COUNTY—Empire O&R Co.'s Webster 1, se se sw 8-24s-2w, report last week in error, dr 2030 ft. Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, dr 1575 ft. Western Kansas O&R Co.'s Warkentin 1, csw sw 1-23s-2w, dr 1805 ft.

MARION COUNTY—Milton et al's Young 1, nw nw se 17-21s-3e, running 10-in csg 1940 ft.

McPHERSON COUNTY—Ok-Tex et al's Moehlinger 1, se sw sw 21-21s-2w, dr 770 ft.

NORTON COUNTY — Lario O&G & Elwell's Kennedy 1, sw sw nw 22-3s-23w, dr 3474 ft.

PRATT COUNTY—Lario, Elwell & Atlantic's Lemon 1, se se nw 12-29s-13w, td 4728 ft, D&A.

RENO COUNTY—McPherson Drlg. Co. et al's Miller 1, se se ne 23-24s-5w, dr 855 ft. Helmerich & Payne's Schwaiger 1, sw se ne 27-26s-5w, dr 604 ft. Dickey Oil Co.'s Shepherd 1-A, ne ne nw 22-26s-9w, lcn.

RICE COUNTY—Skiles et al's Edwards 1, nw nw ne 3-18s-6w, td 3283 ft, pumped 180 bbls oil 3½ hrs. Vernon O&G Co.'s Boldt 1, nw sw nw 10-19s-10w, ur 6-in csg 2909 ft. Gratton et al's Williams 1, sw sw nw 17-18s-7w, sd 2083 ft. Continental & Empire's Nickel 1, ne sw sw 13-18s-8w, td 3214 ft, rust. Aylward et al's Oberle 1, se se sw 19-18s-10w, ru.

ROOKS COUNTY—Gillespie & Son's Eow 1, ne ne nw 12-6s-18w, td 3150 ft, pumped 30 bbls oil, comp. Murfin et al's Wasthusin 1, ne ne se 12-6s-18w, sd 990 ft. Pryor & Lockhart's Bradley 1, sw sw ne 31-10s-16w, co 3060 ft. Skaer Oil Corp. & Reese's Dryden 1, ne ne ne 28-10s-17w, mim.

RUSH COUNTY—Pryor & Lockhart's Stegman 1, sw nw ne 11-16s-17w, lcn. Keith et al's Dartmouth Savings Bank 1, sw sw ne 3-17s-18w, dr 950 ft.

RUSSELL COUNTY—Sam Murphy et al's Enochutz 1, sw sw sw 10-15s-13w, ur 6-in csg 3145 ft. Hartman & Blair's Boxberger 1, nw nw sw 32-13s-14w, td 3220 ft, co. Empire et al's Major 1, se se se 11-14s-12w, dr 1940 ft. Bridgeport Mach & Lauck's Wycoff 1, se nw ne 27-11s-13w, ur 8-in csg 2265 ft. Chas. Newbold's Krug 1, se sw se 4-15s-14w, dr 1480 ft. Hartman & Blair's Boxberger "B" 1, ne se sw 5-14s-14w, dr 3035 ft. Berry et al's Cook 1, ne ne se 19-11s-13w, dr 577 ft. Eisenhour & Shafer's Humes 1, sw sw sw 6-14s-12w, dr 500 ft. Reynolds' Fredrickson 1, se sw se 6-13s-12w, dr 1350 ft.

SEDGWICK COUNTY—Johnson's Jensen 1, sw sw nw 11-28s-2e, dr 1370 ft.

STAFFORD COUNTY—Farris et al's Snyder 1, se se nw 3-21s-11w, dr 2710 ft. Kessler & Their's Evans 1, ne ne ne 30-21s-11w, rur. Lario O&G et al's Andress 1, cnw ne 1-21s-13w, lcn.

SUMNER COUNTY—Morgan et al's Veail 1, se sw ne 27-32s-2e, sd 2942 ft. Helmerich & Payne et al's Elwell 1, nw nw ne 18-34s-1e, rur. Wilcox O&G et al's Hess 1, se se nw 13-34s-2w, lcn. Matthews & Derrington's Berry 1, nw nw se 14-35s-1e, br.

TREGO COUNTY—Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, td 4340 ft, D&A. Continental Oil Co.'s Holcomb 1, ne se nw 26-11s-23w, dr 1367 ft. Ault et al's Loflin 1, ne ne sw 22-13s-21w, cellar. Worsley's Puriton 1, sw sw sw 32-13s-25w, cellar.

WOODSON COUNTY—Morgan et al's Vermont Savings Bank 1, ne nw ne 15-25s-14e, co 1610 ft. Sheedy et al's Warner 2, sw sw sw 21-25s-14w, td 1500 ft, pb 1460 ft, flowed 100 bbls oil, comp. Sheedy et al's Grand Lodge 1, ce½ nw sw 4-25s-14e, dr 150 ft. Max Reynolds' Guy 1, ne ne se 29-25s-14e, ru mach. Sheedy's Baker 1, se se nw 2-26s-14e, dr 100 ft.

SOUTH LOUISIANA

ACADIA PARISH—Superior's G. Bradley 1, Bayou Mallet, sec 51-7s-1e, dr shale 6504 ft.

AVOYELLES PARISH — Frost Oil Co.'s Hinds Lbr. Co. 1, sec 3-3n-4e, mim.

CALCASIEU PARISH—A. G. Oliphant's Calcasieu National Bank 1, Nibbletts Bluff prospect, sec 23-10s-12w, dr shale 6085 ft. Union Sulphur's Prairie Farms 2, South Lake Charles prospect, sec 2-11s-9w, 9250 ft water sand, pb. Pritchard & Lambert's Landry 1, Dutch Cove, sec 23-11s-10w, 430 ft, woc.

CAMERON PARISH — Magnolia's Miama Cooperation 1, Willow Lake prospect, sec 32-12s-8w, dr shale 8474 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Pegneur 274, Jefferson Island dome, 12s-5e, using well for geophysical work at 8516 ft, will soon test.

JEFFERSON DAVIS PARISH — J. K. Lewis' Lock Moore 1, Lock Moore prospect, sec 32-7s-6w, hole clean at 5510 ft and will resume drilling. Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, blew out at 9802 ft.

ST. JAMES PARISH — Shell's Colonial Sugar 1, Convent prospect, sec 5-12s-5e, dr shale 4700 ft.

ST. MARTIN PARISH—Texas Co.'s St. Martin Land Co. 8, Henderson prospect, sec 9-8s-7e, fsh 6440 ft.

TERREBONNE PARISH — Shell's Realty Co. 1, Houma Townsite prospect, sec 103-17s-17e, 10,134 ft, using well for geophysical work.

VERNON PARISH—Llano Cooperative Oil Corp.'s Llano 1, sec 7-1n-9w, sd 2704 ft.

WEST FELICIANA PARISH—Robert L. Morris' Percy 1, sec 89-1s-4w, dr shale 1605 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Lide & Greer's Davis Lbr. Co. 1, ne se 12-16n-5w, elev 305 ft, top Arkadelphia 2287 ft, chalk 2501-2831 ft, top Blossom 3070 ft, top red beds 4080 ft, massive anhydrite 5396-5636 ft, last stringer anhydrite 5713-53 ft coring 5822 ft shale and lime. Rondeau et al's Locke 1, nw ne 9-15n-10w, lcn.

BOSSIER PARISH — Humphreys et al's Bulkley 1, coring 2124 ft, United Gas Pub. Serv. Co.'s Murff A-1, 17-17n-11w, dr 3265 ft.

CADDO PARISH — Pyramid Oil Co.'s Wheeler A-1, 16-18n-16w, dr 3280 ft bro lime.

CALDWELL PARISH—Critchett & Wood's Kyle 2, 18-11n-3e, dr 1650 ft.

CLAIBORNE PARISH—Wm. McGlothlin's Brinker 1, sw se 10-23n-4w, elev 232 ft, top Nacatosh 2150 ft, top red beds 3230 ft, dr 3515 ft, red shale and lime. Sugar Creek Synd. et al's Darrett 2, 31-20n-5w, sr to set 9⅝ in csg, td 5660 ft sandy lime. Kilpatrcick 1, sw ne 7-19n-5w, owdd, td 4558 ft.

DE SOTO PARISH—Alexander et al's Stell 1, 5-12n-16w, elev 245.6 ft, top stringer anhydrite 4960 ft, base last anhydrite 5187 ft, sd 5596 ft, ran electrical tester, no results due to sw. V. T. Bolin et al's McMichael 1, nw se 26-13n-15w, dk and mir. Larken & Wear's Jackson 1, (formerly Jerry Bryan et al), 1-11n-14w, arr deepen, td 312 ft. R. C. Payne et al's Harris 1, 11-13n-14w, setting surf casg.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, 12-11n-6e, lcn.

JACKSON PARISH—Caldwell L&T Co.'s Burroughs 1, ne nw 1-17n-1w, woc surf cas. G. W. Zeigen's La. Cent. Lbr. Co. 4, 25-14n-2w, dr 586 ft. La. Cent. Lbr. Co. 5, 13-14n-2w, dr 1120 ft.

LINCOLN PARISH—Ark. La. Gas Co.'s Causey 1, nw ne nw 32-19n-2w, woc 827 ft. Caldwell L&T Co.'s Hammonds 1, nw ne nw 30-18n-1w, 15½ in csg 100 ft, dr 300 ft. Lide

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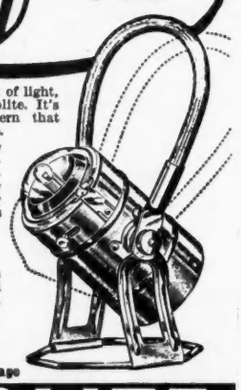

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& Greer's Gardner 1, 10-17n-4w, elev 268 ft, top red beds 3810 ft, top first anhydrite 4589 ft, sd 4676 ft shale.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, sec 10-20n-7e, dk and mir.

RAPIDES PARISH—Amerada Pet. Corp.'s Beasley 1, nw nw 52-1n-2e, coring 5638 ft. Texas Eagle Oil Corp.'s Hogan 1, 2-1n-2e, woc 1667 ft. Bayou Boeuf 1, 47-1s-2e, mim. Texas Co.'s Weil 1, 52-1n-2e, spd.

RICHLAND PARISH—J. F. Morrissey's Jones 1, 15-18n-7e, fsh 1010 ft. A. H. Wray's Slocum 1, 10-17n-6e, dr 1156 ft.

SABINE PARISH—A. H. Tarver's Baker 2, 36-8n-12w, top marl 2205 ft, dr 4366 ft lime.

UNION PARISH—Lent, Sears & Bocher's Frost Lbr. Co. 1, nec 27-21n-1e, elev 198.3 ft, woc 101in csg 881 ft.

WEBSTER PARISH—J. P. Evans' Crichton 1, 35-18n-9w, spd dr 1937 ft, hd chalk. L. R. Skidmore's Barnett 1, 29-17n-9w, rur. Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, top stringer anhydrite 4190 ft, massive anhydrite 4253-4561 ft, dr 6310 ft; Coyle 1, s½ se 23-21n-10w, lcn.

MICHIGAN

ALCONA COUNTY—Thalman and Morris' Kohlman 1, 26n-7e-10, csg 2550 ft. Joseph Langloh's Kurrasch 1, 27n-8e-10, lcn.

EATON COUNTY — Burris and Keeler's Moon 1, 2n-4w-11, dr 250 ft.

GRATIOT COUNTY — Harley Williams' Smith 1, 9n-2w-29, dr 2400 ft. Mountain Oil and Gas Co.'s Walters 1, 11n-2w-17, dr 2900 ft. Herbert Snell's Howe 1, 10n-2w-19, dr 3345 ft.

IONIA COUNTY—Wittmer Oil Co.'s Kimball 1, 7n-5w-15, csg 2800 ft, co.

ISABELLA COUNTY — McClanahan Oil Co.'s-White's Hafner 1, 16n-3w-22, dr 1800 ft. Pure Oil Co.'s Comstock 1, 13n-6w-15, lcn.

KENT COUNTY — Michigan Exploration's Croff 1, 7n-9w-35, lcn. Rex Oil Co.'s Johnson 1, 10n-1w-36, sd 1050 ft. James Barton's Smith 1, 10n-10w-29, sd 750 ft.

LAKE COUNTY—C. W. Teater's McCabe 1, 20n-12w-26, sd 830 ft. Frank Lyon's Alderton 1, 17n-13w-33, sd 3165 ft.

LENAWEE COUNTY — Socony Vacuum's McCarberry 1, 5s-5e-36, fsg cas 2552 ft. Mott and Denman's Huffman 1, 6s-3e-26, sd 150 ft.

MASON COUNTY—Dragoon Development's Young 1, 17n-15w-15, sd 2500 ft. Max Prey's Barothy 1, 17n-15w-29, sd 2500 ft. Northern Development's Burke 1, 17n-15w-26, sd 600 ft.

MIDLAND COUNTY — J. V. Wicklund's Roher 1, 16n-1w-7, dr 800 ft.

MONTCALM COUNTY—John F. Martin's Christensen 1, 10n-6w-20, lcn. Old Dutch Oil Co.'s Russell 1, 10n-6w-29, lcn. Rowmor Oil Corp.'s Tow 1, 10n-6w-36, lcn. Jetter Oil Co.'s McCracken 1, 9n-5w-6, lcn. Star Petroleum Co.'s Ward 1, 9n-5w-20, sd 800 ft.

SAGINAW COUNTY—Chas. Bell's Wegner 1, 11n-2e-10, dr 500 ft. St. Louis Pipe and Supply Co.'s Yadovack 1, 10n-2e-13, dr 2200 ft. Mid State's Burlson 1, 10n-5e-21, dr 600 ft. Henry McEvoy's Jenacki 1, 12n-2w-31, dr 2900 ft.

TUSCOLA COUNTY—Bancroft Oil Co.'s Humes 1, 11n-8e-21, dr 1950 ft. Muskegon Dev.'s Casey 1, 12n-10e-9, dr 1700 ft. Smith Petroleum Co.'s McComb 1, 10n-8e-31, dr 400 ft.

SHIAWASEE COUNTY—Frank C. Cheer's Wilson 1, 6n-3e-34, dr 610 ft.

WAYNE COUNTY—Lee Brown's Spicer 1, 2s-8e-6, dr 1800 ft.

MISSISSIPPI

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, se se 13-7s-10w, dr below 2300 ft, depth not given.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-12w, spd and sd.

LAMAR COUNTY—Snow-Black Pet. Co.'s Miller et al 1, ne sw 3-4n-15w, cemtd 15½ in csg 78 ft.

WARREN COUNTY—Harry W. Elliott et al's R. L. Parker 3, 14-14n-1e, sd 3140 ft.

MONTANA

CARBON COUNTY—Bailey-Round Butte Oil Co. 1, ne se 3-6s-22e, sd 1475 ft.

FERGUS COUNTY—Emmons et al 1, csw se 20-21n-18e, dr 556 ft. Fenholt et al 1, se nw sw 24-21n-17e, dr 210 ft.

JUDITH BASIN COUNTY—Fletcher P. Hunt Hobson 3, nw se ne 30-14n-15e, dr 371 ft.

NEW MEXICO

CHAVES COUNTY—Tannehill et al Campbell 3, cne se 1-11s-25e, dr 1700 ft.

McKINLEY COUNTY—Dave Stacey State 1, 21-20n-9w, lcn.

EDDY COUNTY—Ohio Oil Co., State-McCullough 1, csw sw 16-17s-30e, dr 1595 ft. Etz Bros. State 2, cnw sw 16-17s-30e, dr 480 ft. Barnsdall Oil Co., Dodd 3, csw ne 22-17s-29e, cemented 6 in csg at 2836 ft. Dooley & Dixon Commerce 1, cnw nw 18-20s-27e, setting 7 in csg 355 ft. R. D. Compton Brainard 8, se se 5-18s-27e, dr 1105 ft. Flint & Berry, Berry 1, se sw 24-17s-27e, dr 120 ft. Tex Patillo Thompson 2, ne ne 1-20s-28e, dr 310 ft. Coronado Oil Co., Anderson 1, cne nw 13-20s-23e, standing at 1462 ft.

LEA COUNTY—Barnsdall Oil Co.'s D. C. Hardy 1, c se ne 29-21s-37e, elev 3470 ft, base salt 2420 ft, show gas, dr 3560 ft. Conoco & California Co.'s E. M. Elliott 1-A-22, c sw sw 22-22s-37e, mim. Culberson-Irwin & Roy Stovall's J. B. Humphreys-Humble 1, c se sw 3-25s-37e, elev 3135 ft, dr 1200 ft; John R. Stewart-Repollo 1, c sw se 10-25s-37e, elev 3105 ft, dr 1320 ft. Gulf Oil Corp.'s A. L. Christmas 1, c se se 27-22s-36e, elev 3521 ft, tested dry on swabbing test at 3820-4010 ft, td 4310 ft, in sulp water, pb 3625 ft for gas; H. C. Collins 1, c se nw 14-21s-36e, elev 3568 ft, top anhydrite 1310 ft, top gas pay 3030 ft, dr 3600 ft. Liberty Oil & Drl. Co.'s J. F. Hair-Repollo 1, c sw se 24-24s-37e, machine. Harry Leonard et al's B. T. Lanehart-Humble 1, c sw ne 21-25s-37e, elev 3079 ft, top anhydrite 965 ft, dr 2310 ft. Maljamar O&G Corp.'s M. E. Baish 6, c nw se 21-17s-32e, Maljamar area, elev 4028 ft, dr 2880 ft. Ohio Oil Co.'s State-Elliott 1, c nw se 30-19s-37e, elev 3621 ft, dr 2770 ft. Oil Well Drl. Co.-Southern Pet. Exploration, Inc.'s State 1-A, c sw ne 29-19s-37e, dk. Plains Production Co.'s R. L. Mosley-Repollo 1, c nw se 34-23s-37e, elev 3168 ft, dr 1195 ft; Geo. Smith-Humble 1, c se se 4-25s-37e, elev 3174 ft, dr 840 ft. Repollo Oil Co.'s M. J. Boyd 1, swc n½ 23-22s-37e, rust; Annie L. Christmas 1, nec ne 28-22s-37e, elev 3344 ft, dr 500 ft; J. H. Williams 1, nec ne ne 33-19s-37e, elev 3587 ft, base salt 2530 ft, top lime pay 3858 ft, td 4153 ft, used acid twice, swabbed 55 bbls fluid, 75

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GULF BLDG. HOUSTON TEX.

percent water, in 8 hrs, sd to pump. Samedan Oil Corp.'s C. U. Parks 1, swc s½ 14-22s-37e, machine. Skelly Oil Co.'s J. U. Baker 1, c se sw 22-22s-37e, elev 3348 ft, flowed 188 bbls oil 12 hrs after shot, td 3585 ft; A. L. King 1, c se nw 4-23s-37e, elev 3331 ft, dr 3100 ft; B. L. King 1, c sw se 32-22s-37e, elev 3369 ft, dr 3600 ft; R. R. Simms 1, c se se 4-23s-37e, elev 3306 ft, est 4 mil ft gas 3516-18 ft, dr 3655 ft; E. L. Steeler 1, c nw ne 17-23s-37e, elev 3333 ft, pb fr 3810 ft to 3783 ft, used 2000 gals acid and swabbed 15 bbls oil 60 bbls w, pb to 3765 ft and shot 330 qts nitro 3491-3748 ft, est 6 to 7 mil ft gas, but declined to 2,800,000 ft daily, pb to 3758 ft and completed as 2,000,000 ft gas daily. Warren L. Todd, Inc. et al's Lemon 1, c nw se 17-21s-32e, top anhydrite 990 ft, salt series 1232-3360 ft, contract completed, sd 3700 ft.

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, td 7327 ft, preparing to core.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, dr 3935 ft. Phelps & Coats et al's Fidelity Life Ins. 1, se sw nw 23-1s-12e, dr 310 ft.

BEAVER COUNTY—Anderson et al's Davis 1, csw se 36-5n-26 ECM, td 6794 ft, pb 4140 ft, D&A.

BECKHAM COUNTY—Wood Pet. & Royalty Corp.'s Blair 1, nw nw se 32-9n-26w, dr 2230 ft.

BRYAN COUNTY—Wayne King's Kimbell 1, cs½ ne nw 36-9s-9e, dr 810 ft.

CADDO COUNTY—Denver P. & R. Co.'s Sah-Cam 1, cse se 33-10n-10w, sd 10,084 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, td 3440 ft, pulling 5-in csg to dd with rotary tools.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr 7660 ft. Southern States Oil Co.'s Moore 1, nw se nw 30-4s-1w, sd 1080 ft. Carter Oil Co. et al's Leon Voorhees 1, cse sw 34-5s-2w, br.

COAL COUNTY—Shell Pet. Corp.'s Hill 3, se se nw 30-3n-10e, dr 4307 ft.

COMANCHE COUNTY—George Pace et al's Spencer 1, sw sw sw 21-3n-10w, sd 1813 ft. McCasland et al's Smith 1-A, sw sw sw 12-2n-10w, td 2010 ft, D&A. Meiling's Miller 1, ne ne sw 23-4n-12w, dr 648 ft.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, dr 5330 ft. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, dr 3210 ft. Herndon Drlg. et al's Branson Community 1, sw sw se 23-24n-3w, dr pipe stuck 4050 ft.

GARVIN COUNTY—Suggett & McElreath's Hyre 1, ne ne se 23-3n-1w, coring 4168 ft.

GRANT COUNTY—Southern Oil Co. et al's Allen 1, sw sw se 36-28n-4w, sd 5505 ft.

HARMON COUNTY—Lioalko Trust, Ltd.'s, Crasnoe 1, se se sw 14-3n-25w, lcn.

HUGHES COUNTY—Schumacher et al's Schumacher 1, ne nw ne 23-5n-10e, sd 1780 ft. Halsey's Estep 1, nw nw sw 11-8n-9e, td 3454 ft, pb 3412 ft, 7 million gas, comp. Canavan's Meadors 1, ne se sw 5-8n-10e, td 3196 ft, pb 3146 ft, 1½ million gas, to shoot. Phillips Pet. Co.'s Eberle 1, ne ne sw 12-5n-9e, running 15-in csg 315 ft. Fitzpatrick et al's Cotton 1, se se ne 13-8n-8e, dr 600 ft. Sivils et al's Montgomery 1, nw sw nw 7-9n-9e, dr 2095 ft.

JACKSON COUNTY—Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, dr 1550 ft. Jackman's Fee 1, sw sw sw 27-1s-24w, dr 2125 ft. Burnham's Oliver 1, nw nw se 26-1n-20w, mach on lcn.

JEFFERSON COUNTY—Sinclair Prairie's Barrett 1, nw nw nw 31-5s-6w, dr 3742 ft. Campbell's Trout 1, se ne ne 6-8s-7e, dr 1318 ft. George Pace's Gardner 1, sw sw sw 23-5s-5w, sd 1903 ft. Heydrick's Peoples National Bank 1, sw sw sw 26-6s-5w, lcn.

JOHNSTON COUNTY—Magnolia Pet. Co.'s Welch 1, ne ne ne 12-2s-7e, lcn.

KAY COUNTY — Black Gold Pet. Co.'s Cooley 1, ne nw sw 25-2n-4e, ur 8-in csg 1450 ft.

KIOWA COUNTY—Burns & Moore's Webster 1, cne ne 2-6n-17w, sd 458 ft. Shaffer et al's Slusher 1, nw sw nw 35-7n-17w, sd 1055 ft, to acidize. Adams et al's Stone 2-A, se se ne 34-7n-17w, sd 1193 ft.

LE FLORE COUNTY—McGraw's Tidwell 1, cnw se 17-3n-22e, sd 1555 ft.

LINCOLN COUNTY — Stanolind-Amerada's Crawford 1, ne ne se 35-15n-2e, td 5243 ft, pb 5150 ft, flowed 1 bbl fluid per hr and 1 million gas. Fred McDuff's Jacob 1, ne ne se 10-15n-5e, coring 3421 ft.

LOGAN COUNTY—Stanolind-Amerada & Eason's Gragg 1, sw sw ne 20-18n-4w, coring 6063 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, running 7-in csg 6922 ft. Russell et al's Scott 1, sw se sw 29-8s-2e, dr 3885 ft. Amerada-Stanolind's Westheimer 1, sw se sw 27-6s-2e, td 6797 ft.

MARSHALL COUNTY—Smith's Chestnut 1, ne ne ne 23-8s-5e, sd 390 ft.

McCLAIN COUNTY—Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, td 8019 ft.

McINTOSH COUNTY—I.T.I.O. Co.'s Toncred 1, sw sw ne 9-9n-14e, straight reaming 3605 ft.

NOBLE COUNTY—Continental Oil Co.'s Pruitt 1, nw se sw 19-20n-1w, lcn.

OKFUSKEE COUNTY—Manahan & Grisso's Dalton 1, se se se 36-10n-8e, td 1740 ft, flowed 203 bbls oil 9 hrs, co.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, td 6542 ft, 2500 gals acid flowed 17½ bbls oil and 3 million gas. Sinclair Prairie's Heavey 1, ne ne nw 17-13n-3w, td 6970 ft, D&A.

PAYNE COUNTY—Pierce's Kiheag 1, sw sw sw 7-17n-1e, dr 4455 ft. Denver Prod. et al's Pratt 1, nw nw nw 20-18n-3e, mim.

PONTOTOC COUNTY—Gulf Oil Corp.'s Emry 1, sw sw ne 15-2n-6e, dr 6462 ft. Mid-Texas Pet. Co.'s Harbet 1, sw sw se 30-5n-4e, coring 1938 ft. Patsy Oil Co.'s Magnuson 1, sw se se 23-2n-7e, td 4383 ft, pb 4350 ft.

ROGER MILLS COUNTY—Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, sd 6503 ft.

SEMINOLE COUNTY—Felmlee & Nichaelson's Belford 1, se nw ne 15-9n-8e, td 1680 ft, D&A. Wood Oil & Dirickson's Ellis 1, nw ne ne 36-9n-5e, dr 3695 ft. Amerada et al's Community Stout 1, ne ne sw 3-10n-5e, dr 971 ft. Imperial Drlg. Co.'s Aldridge 1, sw ne nw 32-n-8e, rig. Wynona-Jarvis-Holmes' Horton 1, ne sw ne 18-7n-8e, wocs.

STEPHENS COUNTY—Endicott et al's McFatridge 1, nw nw sw 11-3s-9w, dr 500 ft. Clyde Rhodes et al's Doak 1-A, sw sw sw 1-1s-5w, dr 1300 ft.

TILLMAN COUNTY — Gulf Oil Corp.'s Wearmouth 1, se nw se 31-1s-16w, coring 3311 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, dr 1360 ft.

EAST TEXAS

ANDERSON COUNTY—Burke Bros. et al's S. G. Moore 1 (36.3-ac), J. C. Rosson sur, Camp Hill area, lcn. Standard Oil Co. (Kan.'s) B. Hombs-Robinson 2 (57½-ac), John Adams sur, Long Lake area, lcn. Tide Water & Seaboard Oil Corp.'s Shaw-Cern 5 (1216-ac), Dan Parker sur, Long Lake area, elev 299 ft, top Woodbine series 5148 ft, cem 7-in cas 5342 ft, failed to produce at 5347 ft, sd to pb for gas.

BOWIE COUNTY—Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, dr 515 ft.

CASS COUNTY—American-Liberty Oil Co.'s D. A. Maxie 1 (86-ac), John Collum sur, Rodessa area, elev 234 ft, Annona chalk 2085-2405 ft, top Georgetown lime 3146 ft, top Red Beds 3416 ft, dr 4300 ft; Marcus Rambo 1 (86-ac), J. H. Rives sur, Rodessa area, lcn. R. W. Norton, Tr's Mary Rives 2 (85-ac), John Collum sur, Rodessa area, lcn. T. H. McElvain et al's C. M. Beckett 1 (7.62-ac), John Collum sur, Rodessa area, lcn. United Production Corp.'s J. R. Jones 1 (70-ac), B. J. Murray sur, Rodessa area, elev 247 ft, base chalk 2580 ft, top Red shale 3404 ft, dr 5000 ft; J. R. Jones 2, elev 207 ft, Annona chalk 1935-2580 ft, top Red shale 3375 ft, top Anhydrite 5007 ft, top massive anhydrite 5280 ft, 5400 ft.

COLLIN COUNTY — Port Bolivar Oil & Ref. Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat No. 1193, elev 722 ft, sd 3866 ft.

FRANKLIN COUNTY—W. C. Windsor et al's King & Hughes 1 (40-ac), Orlander James sur, Talco area, elev 364 ft, Pecan chalk 1621-1806 ft, top Woodbine series 2818 or 2895 ft, top Eagleford shale 2413 ft, top Georgetown lime 3397 or 3386 ft, dr lime 3940 ft.

FREESTONE COUNTY—J. P. Haley & C. F. W. Young's Jack Eppes 1 (18-ac), David Bullock sur, 8½ mi se Teague, elev 471 ft, top Pecan chalk 2965 ft, Austin chalk 3761-4143 ft, top Woodbine 4556 ft, td 4676 ft, tested sw, dry and abd. Tide Water and Seaboard Oil Corp.'s J. L. Johnson 1 (894-ac), H. Wheeler sur, Long Lake area, dr 285 ft.

GRAYSON COUNTY — Olson Drl. Co.-Frank Gardner et al's SW Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, Trinity series fr surface to 850 ft, Springer shale 850-1240 ft, Mississippian Caney shale 1240-4308 ft, fine grained sand 4308-4482 ft (with odor oil-gas 4441-82 ft), chert 4482-4637 ft, top Woodford shale 4637 ft, lost dp 4670 ft, pb to 3535 ft, re-dr 4755 ft. Port Bolivar Oil & Ref. Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HENDERSON COUNTY—L. V. Marmar et al's I. W. Brown 1 (18¾-ac), R. H. Pearson sur, nw Cayuga area, lcn. W. McDouglas et al's E. Price 1 (216-ac), M. Mathews sur, mim. Sparks et al's Theo E. Berry 1 (167.8-ac), Aaron York sur, No. 847, 5 mi s Brownsboro, lcn. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, elev 359 ft, sd 2800 ft.

KAUFMAN COUNTY—C. C. Pearson et al's

G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2402 ft.

LAMAR COUNTY — Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, elev 484 ft, sd 326 ft. North Texas Synd.'s D. M. Hayes 1, J. R. Craddock sur, 2½ mi nw Emerson, sd 1800 ft. J. A. Forester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 385 ft, top Georgetown lime 2256 ft, dr lime 2800 ft. Portland Oil Co.'s J. M. Johnson 1 (96-ac), Luke Roberts sur, 1 mi w Deport, dr 2955 ft.

LIMESTONE COUNTY—C. F. Lytle et al's J. L. Thompson 1-T (141-ac), Pedro Varella sur, W Mexia field Trinity test, dr 4200 ft. Monte Oil Co.'s A. E. Rosson 1, blk 4, Pedro Varella sur, nw edge old Nigger Creek area, Austin chalk 2540-2770 ft, top Woodbine 2840 ft, testing 2850 ft.

MORRIS COUNTY—Raycotuck, Inc.'s P. M. Staggers 3 (40-ac), J. D. Nelson sur, top Pecan chalk 2525 ft, pulled in dk, sd 3804 ft. Steve J. Rotundi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, top Navarro chalk 2258 ft, sd 4105 ft.

NAVARRO COUNTY—E. M. Thomason & Co.'s Estes Bros. 1 (58-ac), blk 11, Wm. Gilbert sur, 1 mi e Roane, top broken Austin chalk 1700 ft and top hard chalk 1750 ft, sd 2000 ft.

RAINS COUNTY—W. A. Allen, Geo. W. McClung et al's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, sd 117 ft.

RED RIVER COUNTY—Annona O&G Co.'s Leo. & Otto Roberts 1 (200-ac), James Bankston sur, 2 mi ne Annona, dr 175 ft. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, elev 478 ft, sd 825 ft. Mid-West Pet, Co.-Texas Oil & Royalty Co.'s Hocker-Hughes 1 (160-ac), M.E.P.&P. Ry. sur, lcn.

RUSK COUNTY—McCallum et al's E. C. Gary 1 (265-ac), John Piburn sur, 5 mi s Henderson, elev 338 ft, top Austin chalk 2324 ft, dr 3240 ft. J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, claim show gas and oil, cor 3490 ft. Pure Oil Co.'s W. H. Faulkner 1 (60-ac), Wm. Elliott sur, 5 mi e of Mount Enterprise, lcn for Trinity sand, or 8500 ft test.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 3 mi e Van field, sd 180 ft. J. G. Beard et al's H. Holley 1 (50-ac), H. M. Kinsey sur, sp & sd. Thompson & Colby's W. P. Walsh 1, Samuel Barnett sur, 6½ mi ne Tyler, sd 420 ft. Winona Oil Corp.'s McClung 1 (23¼-ac), E. Newberry sur, 1 mi e Winona, sd 1165 ft.

TITUS COUNTY—C. M. (Dad) Joiner et al's Huernish Hrs. 1, Henry P. Banks sur, 12 mi e Talco, dk. Humble's Mary D. Grove 1 (82.9-ac), Ben Jones sur, 2 mi e Talco, dr 2450 ft. Leland Fikes et al's Talco Townsite Co. 1 (100-ac), M. V. Delgado sur, lcn; Talco et al 2 to 8, inclusive, lcns. R. L. Peveto, C. N. Housh, E. G. Thompson et al's C. M. Carr 1 (108½-ac), M. V. Delgado sur, 1¼ mi e Talco, elev 370 ft, Pecan chalk 1611-1788 ft, top broken Austin chalk 3011 ft, top hard chalk 3032 to 3212 ft, Woodbine series 3436-3866 ft, Del Rio clay 3866-3962 ft, top Georgetown lime 3962 ft, top Paluxy sand so&g 4190-4208 ft, testing production.

HARRISON COUNTY—Bergendoll, Hanover et al's Buchanan 1, W. M. McIlvain sur, owdd, td 3848 ft. D. J. Miller et al's Bivins Est. 1, elev 255 ft, top Pecan Gap 1945 ft, dr 2500 ft.

PANOLA COUNTY—Logansport Pipe Line Co.'s Rushing 1, Manning Smith sur, dr 1225 ft, shale, elev 120 ft.

SABINE COUNTY—Occidental Reatly Co.'s Tucker 1, Moses Hill sur, spd top Cockfield 624 ft, dr 700 ft.

SHELBY COUNTY—Potter & Rimbley's O. H. Polley Est. 1, Wm. Weimer sur, dr 2289 ft. Farley & Sommers' W. C. Windham 1, Wm. Leach sur, sd 2200 ft. C. A. Parker et al's W. C. Windham 1, A. H. English sur, elev 219 ft, dry, show oil, sd 3370 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. F. Henry sur, 7-in OD csg 3815 ft, cored lime, so 3888-92 ft, cored sw 3904-12 ft, arr pb td 3912 ft.

TEXAS GULF COAST

BRAZORIA COUNTY — Gulf's Fairfield 1, Lockridge prospect, A. Robeson sur, woc 6274 ft. Texas Gulf Producing Co.'s Sparks 1, Angelton prospect, Wm. Roberts sur, mim. Strake Pet. Corp.'s Poole 1, Poole Ranch prospect, W. Eggars sur, dr shale 2820 ft.

BURLESON COUNTY—Walter Blumenthal's Crain 1, se of Rockdale, W. C. Pierce sur, coring shale 5756 ft.

CHAMBERS COUNTY—Black Gold Pet. Co.'s Barrow 1, R. Barrow sur, dr shale 8345 ft.

COLORADO COUNTY — Coyle-Concord's Powell B-2, Garwood, I.&G.N. sur, abn 6755 ft.

GALVESTON COUNTY — Sun's Hughes 1, Green Lake prospect, W. C. M. Baker sur, woc 8596 ft.

HARDIN COUNTY — Republic Prod. Co.'s Burell Fee 1, A. A. Burrell sur, dr shale 4379 ft.

HARRIS COUNTY — H. C. Hill's Swilley 1-A, Sheldon prospect, V. Blanco sur, sd 7544 ft; same operator's Swilley 1-B, V. Blanco sur, sd 7566 ft.

JEFFERSON COUNTY—Sun's Broussard 1, Labelle prospect, B. Blackmon sur, dr ahead 7244 ft. Smith & McDannald's Grinell 1, n of Port Arthur, Grisby sur, dr shale 3926 ft.

MADISON COUNTY — Andres-Lawrence's Potett 3, L. Helzey sur, no report.

MATAGORDA COUNTY—Continental's Feife 1, Citrus Grove prospect, J. S. Chriswell sur, 6220 ft, woc. John Deering's Estille 1, Cedar Lane prospect, Tone & Jamison sur, sd 6525 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, cutting and pulling 7816 ft. H. M. Smith Corp.'s Wadsworth 2, Sheppards Mott, S. R. Fisher sur, woc 1302 ft. Sun's Graig 1, e flank of Hawkinsville, T. Williams sur, reaming 5619 ft.

MONTGOMERY COUNTY — Chapman & Smith's Delta Land Co. 1, Dacus area, T. Sheppard sur, sd 2590 ft; same operator's Delta Land Co. 2, w of No. 1, T. Sheppard sur, sd 2501 ft. Chas. Gholson et al's Johnson 1, nw of Willis, W. Weir sur, abd 3992 ft. Jack Frazier's Maxey 1, J. Brown sur, dr shale 3360 ft.

POLK COUNTY—J. T. Lightfoot's L. Davidson 1, ne of Corrigan, Houston County School Land sur, dr shale 2425 ft. Gist & Graddy's Knox 1, F. Chair sur, coring 2907 ft.

SAN JACINTO COUNTY—C. Gholson & L. Decker's Randolph 1, Evergreen area, V. Flores sur, dk.

WASHINGTON COUNTY—W. D. Twichell et al's Hoxie 1, S. Clampit sur, dr shale 1450 ft.

WHARTON COUNTY—A. C. Cockburn et al's T. Connor 1, Leach prospect, E.T.&R.R. sur, sec 73, dr salt water and sand 5353 ft. Pure's E. Paige 1, Blue Basin prospect, J. Pirie sur, sd 7756 ft. Sterling's A. Genzer 1, East Bernard prospect, J. Scott sur, ru. Texas Co.'s Pierce Estate B-1, A. H. Pierce sur, No. 8, mim.

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SOUTH TEXAS

ARANSAS COUNTY — Buckingham Oil Co.'s McCampbell 1, lots 8 and 9, sec 41; lots 8 and 9, sec 42, McCampbell Subd., James Orick survey, 2 mi nw of Aransas Pass, 8 ft fr San Patricio County line, dr 5850 ft, sticky shale.

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust), U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 miles n Poteet, dr 1800 ft. W. B. Hinton's Weigand 1, in Donovan sur No. 145, lcn. R. McIntyre's (Cliff Oil) San Antonio Joint Stock and Land Bank (H. A. Billinch) 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, dr 2570 ft.

BASTROP COUNTY—Franklin et al's Betty Lawhon 1, Standifer sur sw of Elgin, dk and sd. G. E. Holmstrom's Brunridge 1, Enoch Harris sur, 3 mi ne Elgin, rur. A. W. Phillips' Vaughn Lumber Co. 1, 1110-ac tr, E. Sartuche sur No. 10, 5 mi ne Bastrop, sd 154 ft.

BEE COUNTY—Geo. M. Church's Webb-Hearn 1, in 92-ac lease E. Ryan sur, 200 ft se disc well Beeville field, sd 5935 ft, set 7 inch casing to bottom, perf 5900-14 ft, still flowing oil and sw, well taken over by Lonnie Glasscock to rework; G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, dr 2450 ft. Clyde Echols et al's T. Plummer 1, F. J. Chessman sur, dr 1250 ft. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 668, 4½ mi s of Normana, td 120 ft, set sur csg, dr ahead. G. M. Richardson et al's Mengers 1, center w 100-ac of W. R. Ryan 500-ac tr, Wm. Allen sur, near Tynan, Burton Drlg. Co., mim.

BEXAR COUNTY — American Gas Co.'s Oliver No. 5, 400-ac tr M. F. Rodriguez sur, Gas Ridge, td 2996 ft, set 6⅝ csg 2250 ft, bad cement job, recemented, dr plug, cleaning out hole 2210 ft. Tom Anderson's C. J. Krause 1, S. McCullough sur, sd 350 ft. Carter & Ingersoll's Louis Mann 1, 160-ac tr, John Christopher sur, 3 mi s Von Ormy, dr 854 ft in sandy shale. J. B. Chew et al's Frank Bonkowski, Wm. McMinener sur, sec 10, dr 1196 ft on 1250-ft contract. Crouch & Shadrock's W. Kohler 2, 88-ac tr A. M. Baerrera sur No. 58, td 650 ft, ran tubing and rods below this depth. Joe Deupree's Mrs. R. S. Nina (R. S. Coffey) 1-A, F. F. Rodriquez sur, 7 mi s San Antonio, td 1200 ft, recemented at 1059 ft, bailed down, cement gave way, water broke in, now sd for orders; Wm. H. Russell 1, 723-ac tr, Fernando Rodriquez sur, 9 mi ne San Antonio, deepened from 1001 ft to 1075 ft, testing on pump and show 75 bbls fluid, 54 bbls of which is oil; S. G. Winter 1, 330 ft nl and el of 100-ac tr in Fernando Rodriguez sur, one mile west of No. 1 Russell, spudding. H. J. Moore's Mrs. Lena Eisenhauer 1, 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, sd 486 ft, wait on csg. O. M. Owensby's Minna Coreth 1, 284.04-ac tr, Adam Stafford sur No. 49, near Eckert field, sd 1240 ft, had gas show. H. A. Pagenkopf's Chas. Rittiman 1, 100-ac tr, J. Chappal sur, 12 mi ne San Antonio, near Kirby, top Edwards lime 1110 ft, dr 2064 ft in glenrose. W. A. Schaeffer Co.'s P. J. Coimperlik 1, 102-ac tr, J. M. Bustillos sur, 16 mi e San Antonio, dk. H. B. Schumacher's Hilda Gilette 1, 49-ac tr in M. G. de Alamiz sur No. 20 and 7 mi south of San Antonio, dr 490 ft, shale. Trawalter & Umburn's Juan Escalera 1, 213-ac tr, Francisco Ricardo sur No. 6, dr 770 ft.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 3, 222-ac tr, Thomas Webb sur No. 91, 3 mi e of Blanco, sd 212 ft.

BROOKS COUNTY—The California Co.'s B. Garcia 1, tr No. 3, Las Mestina de Gonzalina gr, Alta Mesa dist, td 4045 ft, reaming to set protection string of casing. Dick Young et al's Singer 1, ne¼ se¼ sec 312, sand 917-19 ft; dst 914-19 ft, dst failed, set 6⅝ inch csg at 915 ft, standing with 750 ft of 21.5 gravity oil in hole, prepare set screen and run tubing, oil has slight sulphur odor.

BURLESON COUNTY — Walter Blumenthal's G. V. Crain 1, W. C. Pearce sur, ab 297, 1 mi f Milam County line, coring in chalk 5140 ft.

CALDWELL COUNTY—Pat Armstrong et al's No. 1 Dunlap Est., 431-ac Farm in S. Seal sur, sd 21 ft. Detroit-Texas Dev. Co.'s W. P. Dunlap 3-A, S. F. Sanders sur, Dunlap area, sd 2390 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e of Luling, sd 27 ft for orders. Exploration Dev. Co.'s (Fred Meyer) W. R. Eibaud 1, 57-ac tr, S. Seal sur, Dunlap area, dk. Joe Graham's Martindale 1, S. Morrison sur, e of Staples, dr 520 ft, shale. W. C. Jenning's McMahan 1, James Pinchback sur, se of Lockhart, dr 1325 ft. Marts & Beaven's G. Mackey 1, 201-ac tr, G. Pace sur, dry and abnd 2110 ft, oil show 1630-40 ft, dst 1610-40 ft, 30 min show 300 ft mud, small amount of mud and oil. Fred G. Scott's E. P. Dunavent 1, 4 mi se San Marcos, re-dr 135 ft. Sterling & Wilson's M. L. Strawn 1, Pablo Martinez sur, at Lytton Springs Townsite, sp. M. R. Tinkle et al's Arnold 1, S. Seal sur, Dunlap area, lcn.

CALHOUN COUNTY — Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2-A (3), sec 6 blk C. P. Garcia sur, 9 mi se Seadrift, td 9083 ft, set 5¾ inch csg on bottom, recemented at 7977 ft with 40 sacks, woc. Crown Central Pet. Co. et al's M. C. Driscoll 1, lot 24, Armstrong Ranch subd., Benito Moralles sur A-28, td 1254 ft, set sur csg, woc. Hilton & Maise's J. Brundrett 1, 330 ft nel and nwl of tr 8 in Wm. Little sur, reinstated, td 192 ft, mim. Humble & Plymouth's Patrick H. Welder 1, 10,000-ac lease, Gardner Smith sur, dr 5043 ft, dst 4939-45 ft, recovered 9 thribbles sw, 7 min.

CAMERON COUNTY—W. T. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, center lot 17, share 29, 30 and 31, Buena Vista gr, 6 mi north Bayview, sp and sd, wor.

DE WITT COUNTY — Gill Brothers & Koontze's Herman Riedel 1, 535, 5-ac tr, J. Santos sur (6 mi se of Yorktown), dr 4925 ft. Universal Oil and Galspie's Schubel 1, C. Fitzgerald sur, ab 2 mi nw Yoakum, sd 887 ft.

DUVAL COUNTY—J. H. Chandler's Rita S. de Pena, Pena tr, sh 4, Mesquite gr, dst 2818-37 ft, show 2 joints mud, show of oil, one hr, dry and abnd 2837 ft. Charles Daubert et al's D. F. Kreis 1, sec 518, 6 mi e Loma Novia, dr 2936 ft. Duval Oil Corp.'s Bishop Cattle Co. 12, s½ n½ sec 59, south of Loma Novia, td 2549 ft, sand 2533-47 ft, tested abt 32 bph, ½ choke. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, reaming 4340 ft, dst 4254-72 ft, show 1 fourble sw and show of gas. Howard Pet. Corp.'s G. Ruiz 1, sec 5, e of Loma Novia, 4000 ft test, ru. Humble O&R Co. No. 1 L. & P. R. Wright, se¼ of sec 118, 1 mi n of Seven Sisters field, td 2858 ft, dry and abnd; L. & P. T. Wright 2, 990 ft wl, 330 ft sl, sur 118, dr 1620 ft. Marzo Oil Co.'s E. R. Hagist 2, sec 269, 480 ft e No. 1 Hagist, Hagist area, td 2119 ft, set 7 inch csg 2107 ft, sd. W. C. McBride, Inc.'s E. R. Hagist 1, blk 13, sec 267, td 2183 ft, dry and abd. Porter & Steven's Sutherland 1, sec 126, Hoffman area, ½ mi n production, dr 1500 ft. Rancho & Gem Oil Co.'s Bishop Cattle Co. 1, 1 mi n Hoffman field, sd for water 2130 ft. Reliance Oil & Royalty Corp.'s 1-A P. L. Telford, sec 386, lcn. Rogers & Rogers Cuellar 1, sec 117, Hoffman area, td 2872 ft, re-completing, set 7 inch csg 2852 ft, Loma Novia sand 2854-71 ft, flowed 25 bbls fluid hr, 25% water, 75% oil; Sophie Hoffman 1, sec 119, Hoffman area, tested gas in Gov't Wells sand 2735 ft, td 2890 ft, pulling liner; Southerland 2, sec 120, 1150 ft nw Sutherland 1, ru. Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Book Ranch in Santa Cruz de Concepcion gr in extreme southeast portion of county on 9829-ac tr, 6000-foot test, dr 5300 ft. Smith and Hamill's Bishop Cattle Co. 1, nw¼ of ne¼ of sur No. 70, 2 mi n of Hoffman field, dr 100 ft.

EDWARDS COUNTY—Paul Teas' J. B. Stewart 1, sec 2, GC&SF sur, 14 mi se Rock Springs, dr 2550 ft.

FRIO COUNTY—Amerada Pet. Corp.'s Cory & McWilliams 1, tr 13, Jose Arocha sur No. 298, 2¾ mi sw Smith 1, td 5569 ft in Austin chalk, 7 inch csg set 5434 ft, flowed 987 bbls oil in 3 hrs through pen flow, shot with 135 quarts; T. G. McWilliams et al tr 3, Jose Arocha sur 299, dr 1975 ft; T. G. McWilliams et al tr 6, Arocha sur 298, sp; T. G. McWilliams et al tr 17, J. M. Tijerina sur 300, dr 3650 ft; Halff & Oppenheimer 5, S. Glenn sur No. 335, Pearsall area, td 5362 ft, set 7 inch csg 5275 ft, flowed 55 bbls hr, but not fully complete; Halff & Oppenheimer 6, San Antonio Ditch Co. sur 1104, td 5467 ft, top chalk 5394 ft, set 7 inch csg 5408 ft, flowed 1316 bbls of oil in one hr, 25 min and 12 mcf gas, now shut in. Thornton Davis et al's Halff & Oppenheimer 1, J. D. Clara sur No. 336, 1 mi w of Pearsall field, sd 4401 ft.

GOLIAD COUNTY—Jane Oil Co.'s (Diamond Half Oil Co.) Gillett No. 2, 745-ac tr, J. Gomez sur, 660 ft e No. 1, lcn. Magnolia Petroleum Co.'s S. J. Tipton 1, 330 ft nw along swl of tr of A. S. Thrumond sur, fr sw cor of tr thence 330 ft ne at rt angles, near common cor of Karnes-Dewitt-Goliad counties, lcn. H. J. Porter et al's J. R. Kaufman 1, 40-ac lse. A. Trevino sur, 1000 ft e of Kaufman 1-C, Hords Creek, lcn abnd. Port Isabel O&G's Duaderstadt 1, in Solomon Hall sur, in e end of county, 5500-foot test, dr water well (closed well). Thompson Drlg. Co.'s J. E. Pettus 1, in Maria de Jesus Y Bravo gr, 1100 ft se Stanolind No. 1, 12 mi nw Goliad, coring 4210 ft. Zeni Oil Co.'s (was S. T. Potter et al) Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, dr 540 ft.

GONZALES COUNTY—O. M. Owensby et al's H. B. Steen 1, N. M. Bane sur, sd 2135 ft. Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, sd 1055 ft, shale.

GUADALUPE COUNTY — Paul Armstrong's Clem Brodnaux 1, 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, dr 2033 ft, shale. Clark & Gay's Waldrip 1, center 1½-ac tr in Staples townsite, G. Allen sur, sp. Louis

Crouch's J. Getzke 1, 1150 ft s of Guadalupe river and 150 ft wl of 188-ac tr in J. D. Clements sur, lcn. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green Dewitt sur, 3 mi se South Darst Creek, Edwards lime test, dr 900 ft. A. C. Locke's H. Holmes 1, 26-ac tr, Cyrus Campbell sur, 2 mi n and w of Staples, sd 530 ft; J. S. Slaughter, C. Campbell sur, sd 1050 ft. R. C. Robbins' Mrs. J. W. Manford 1, James Hodges sur No. 374, 1250 e Manford pool, td 2581 ft, standardizing. Fred G. Scott's F. P. Pooley (Walter Schultz) 1, 2 mi s Staples, sd 195 ft. H. P. Suggs & L. R. Reedy's J. H. Sherrill 1, 100-ac lse, Geo. Allen sur (1½ mi s of Staples), dr 980 ft, shale. W. J. Walton et al's Antone Zoboroski 3, ne corner of 227-ac tr in Joseph D. Clements sur, td 2230 ft, set 6⅝ csg at 2156 ft, swabbed 500 bpd from soft chalk, now shut in storage; Antone Zoboroski's 3, midway between No.'s 1 and 2 in 227-ac tr, Clements sur; Antone Zoboroski's No. 5, 150 ft sl, 1150 ft nl of 227-ac tr in J. D. Clements sur, bldg dk.

HIDALGO COUNTY—Dean Brothers' Mrs. Lula B. George 1, tr 13, porc 41, Reynosa Juris, 7000 ft e of discovery, 700 ft n of Samfordyce production, spudding. Gerald O&G Co.'s Nelson Mortgage Co. 1, blk 38, lot A. La Blance Agricultural subd., about four miles south of City of Donna, sp and sd. Gulf States Oil Co.'s Delta Orchards 1, lot 2, blk 73, Las Mestinas gt, 1 mi s of Mestinas field disc well, td 6808 ft, ran Schlumberger, gas sand 5900-5915 ft; 5754-69 ft and 6392-6410 ft. J. C. Engelman 3, lot 3, blk 70, Las Mestinas gt, 700 ft e of Mestinas disc well, lcn. Kingwoods Oil Co.'s Osca Daskam 2, blk 30, porc 45, 10 mi ne Mission, dk. Maddox & Tatum's John H. Shary 1, tr 48-2, porc 53, Reynosa Juris (abt 7 mi n and 1 mi w of city of Mission), td 6006 ft, ran Schlumberger. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 1, lot 11, blk 20, Alamo Land & Sugar Co. subd, Alamo gr, 4 mi s Alamo, testing 735 ft. H. J. Porter et al's C. H. Swallow, lot 5, Porter subd., Minnesota-Texas Land & Irrigation Co. tr, s Alamo, spud and sd. Quintana Pet. Corp.'s John C. Engelman 1, e½ of lot 10, blk 94, Mestinas gr, 4 mi se of Gulf States No. 1 Engelman, coring 4684 ft. Dayle L. Smith Oil Co.'s Fairbanks & Youns 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, dr 1810 ft. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59, about 4000 ft e of Mercedes field, td 7608 ft, set 5 inch csg at 7530 ft, sand 7510-40 ft, cleaning, showing oil; No. 8 ARGL Co., td 2120 ft, blk No. 87, N. Capisalle dist, dr 7000 ft, hard shale.

JIM HOGG COUNTY — P. H. Neilson, Trustee de la Garza 1, blk 293, Pippin subd, Randado gr, sd 610 ft. G. C. Rankin's Vela 1, blk 6, sec 5, dr 2347 ft.

JIM WELLS COUNTY—Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam subd, sh 3, San Diego gr, ¼ mi n disc well, San Diego field, dr 5200 ft. O. W. Killam's George Reynolds 1, s¼ of sur 28, J. Harper grantee, 3 mi w of Orange Grove, dr 900 ft. Henry Mode's B. W. Owens 1, 120-ac tr, J. Poitevent sur 151, ab 366, 2 mi s of Alfred, dk and sd. G. M. Richardson's No. 1 J. E. Garrett, sec 5, N. G. Collins gr, 15 mi n of Alice near Highway 66, reinstated, bldg new 122 ft steel dk. Texon Royalty and Lucey Pet.'s Coopwood and Rolsten 1, 330 ft nl and wl of sec 17, Richard King Farm lots, 2½ mi nw Agua Dulce, mim.

KARNES COUNTY—McDowell & Evans' Bertha Ruhman 1, in tr 7, Butler subd of B. F. Ruhman land in Carlos Martinez sur, 3 mi ne of Kenedy, ru.

KERR COUNTY—Auld & Evans' I. R. Heffner 1, sec 13, of B. S. & F. sur, 25 mi nw Kerrville, sd 1435 ft. Eastland Oil Co.'s Jeff Love 7, in J. Martinez sur, sec 1594, sd 1500 ft. Evans & Edmiston's Will Auld 1, sec 1592, and on 418-ac tr, sp and sd.

KLEBERG COUNTY—Clark & Anderson's J. W. Kellam 1, lot 7, sec 53 KT&I subd, 2 mi se Kingsville field, sp and sd.

LAVACA COUNTY—J. D. Aiguier et al's No. 1 A. A. Staffa, W. R. Henesy sur, 3 mi s of nl of county, sd 2330 ft.

LIVE OAK COUNTY—Dirks Brothers' J. R. Dougherty 1, J. Beagle, 6 mi w of La Garto, td 4338 ft, making dst 4328-34 ft. R. H. Feltner et al's John T. Carter & Brothers 1, nw 120-ac of w 160-ac of sec 319, T&T Ry. Co. sur in extreme sw portion of county, near Sangor Ranch, td 2957 ft, dst 2952-57 ft, show 34 thribbles mud and gas and 6 thribbles sw, made several heads while breaking down, making second test. Houston Oil Co.'s Mrs. C. L. Cartwright 33, 1172 ft n No. 21, 880-ac tr, Francis Botello, td 4660 ft, pb to 3300 ft, blew out after pb, still running wild, destroyed dk and rig. Ogden & Reed's D. C. Reed 1, Clogg Ranch, sw part of county, dr water well. L. W. Stieren's Smith 1, 181-ac tr, T. B. Reese sur, 7 mi e Oakville, dry sand, abnd 3513 ft.

MAVERICK COUNTY—Fulwood & Marr's State Bank & Trust Co. 1, GC&SF sur No. 3, 2 mi n of Eagle Pass, sd 770 ft. Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Agrita Oil Co.'s (I. W. Taylor) Lark 2, 330 ft fr No. 1 Lark, 150 ft nwl of blk 56, E. W. B. Scrugham sur, lcn. Aransas Oil Co.'s No. 2 Ruckman, dr 450 ft, gas sand 256 ft. Darby Pet. Co.'s Hagist 3-B, AB&M sur No. 181, mim. Thornton Davis et al's (Whisenant and Trenchard) Roos Bros. 1, sur 93, 3 mi e and n of Loma Alta field, dr 875 ft. F. Daybault's Matula 1, 100-ac James Garner sur, 2½ mi sw Calliham, sd 1018 ft, installing heavier rig. Charles A. Hall No. 2 Claunch, 200-ac tr, M. Hely sur, ½ mi s Calliham, 400 ft se No. 1, td 967 ft, gas sand 952-67 ft; 7 inch csg at 947 ft, woc. Magnolia Pet. Co.'s Kincaid 1, sec 86, 3 mi e of Texio well, coring 2801 ft. W. E. Rowe's Lee 1, sw cor of ne¼ of se¼ of sec 34, La Chusa Land Co. sur, coring 2000 ft. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 2½ mi sw Tilden, sd 2250 ft.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, sd 700 ft; Mary Win 1, John Ward sur, td 60 ft, set sur csg and sd. W. C. Campbell et al (Ed Falvey et al's) McMenemey 1, sur No. 331, G. Petty sur, 4 mi se Devine, td 2892 ft, top chalk 2800 ft, pb to 2230 ft, set csg at 1910 ft, sand shown on electric formation test 1918-2230 ft, ran tubing swabbed sw and sd. Caraco Oil Co.'s Taylor 3, Brushet sur 135, td 356 ft, prep rework. Gates & Hill's W. B. Odom 5, 160 ft wl, 300-ac tr, H. Castro sur No. 174, 5 mi sw Hondo, dr 160 ft.

MILAM COUNTY—R. G. Cannon's H. & L. Ludson 1, 100-ac tr, S. C. Robinson sur, sp and sd.

NUECES COUNTY—Allen & McCormick's W. B. McBurnett 1, 660 ft nl, 330 ft el, lot 2, Roberts & White subd Robt. Shallert Ranch, 5000-foot test, set 500 ft of 10¾ inch sur csg. J. H. Coker & Lee Bros. Oil Co.'s A. J. Geistman 1, 60-ac tr, J. Ward sur 316, td 3176 ft, sand 3148-76 ft, dst 3154-76 ft, recovered 2100 ft oil and sw, coring ahead. A. D. Corgey's Baldwin 1-A, blk 21, abt 9000 ft due e Clark-

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wood, digging pits. J. T. Cox's John Harvey, 150 ft nl and el, share 11, Harvey Lands, 2½ mi se Callahan, mim, contract depth 5000 ft. Culton & Republic Nat. Gas Co.'s 1-C Baldwin et al, blk 13, J. C. Russell Farm lots, cor ing 4060 ft. D. H. Hawn's Dr. C. W. Skipper 1, 16-ac tr, E. Villareal sur, dr 2250 ft. Magnolia Pet. Co.'s J. C. Baldwin 10, 140-ac tr, A. F. Martin sur 150, dr 1240 ft. Refugio Refining Co. (Garland Clymore) Jones Weil 1, 80-ac tr Villareal sur, 1 mi se Saxet Heights, dry and abnd 5006 ft. Santa Clara Oil Co.'s (Atkins & O'Neil) C. H. Cooke, sec 14, Guadrilla Irrigation Co. sur, 4 mi e Driscoll, comp water well, mim. Southern Minerals' Alkali Plant 1, E. Villareal sur, 1100 ft nw of Hawn No. 1 Sheiy, dr 2900 ft. Taylor Refining Co.'s John Dunn 1, 53-ac tr Villareal sur, td 4046½ ft, sand 4026-46½ ft, set csg to td, flowing and est 5 bph, 7/64 inch choke, tp 500 lbs, cp 1500 lbs. Thompson & McGrew's A. F. Geistman 1, 120-ac tr, in J. R. Ward sur 316, offset Nelson's Buckholt 1, lcn.

REFUGIO COUNTY—Quintana Pet. Corp.'s Fannie Heard 1, Thomas Webb sur, ab 298, 3 mi e of Greta field, 1 mi n Tomoconnor, dk, wor. Sorey et al's No. 1 Coble, sec 4, blk 18, Sunshine subd, Refugio town tracts, lcn.

SAN PATRICIO COUNTY—Benedum & Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch subd, 3½ mi ne Sinton, dr 4385 ft; Jones 1, nw¼ sec 65, George H. Paul's subd of Coleman-Fulton Pasture Co. Lands, 3 mi e Whitepoint field and 4½ mi nw of Portland, sp. Esnes Oil Co.'s (George E. Smith) J. L. Britton 3, 160-ac tr, sec 6, blks 7 and 8, 2nd subd of Taft Farm Lands, lcn. Humble O&R Co.'s Godwin 2, 210-ac tr, Taft Farm Lands, sec 23, lcn; J. W. Mayo 1, J. N. Tabor sur, td 3975 ft, sand 3969-75 ft, cleaning through ⅜ inch choke on est 200 bpd fluid, tp 325 lbs, cp 200 lbs. Nabod Royalties, Inc.'s (Texon Drlg. Co.) R. L. Rambo 1, lot 6, sec 35, 4th addition Taft Farm Lands, ½ mi e of s end of Plymouth field, ru. Santa Clara Oil Co.'s (Atkins & O'Neil) J. F. Welder heirs 4, 2300 ft sel, midway between nel and swl of 1250-ac lse, P. Villareal sur, 1½ mi sw of discovery well, sp and sd for high water. Shell Pet. Corp.'s G. W. Pullin 1, sec 1, second addition Taft Farm Lands, 4 mi s and e of Taft field, dr 6143 ft. Willis Storm's Nancy Hobbs 1-A, 50-ac tr, ru.

STARR COUNTY—Ash & Tackett's R. E. Margo 1, blk 4, sh 3-B, porc 70, Juris of Mier, sd 378 ft. O. G. Borah et al's V. C. de Guerra 1-A, sh 92, porc 68, 2 mi n of Roma, dr 350 ft. John H. Clopton's No. 2, A K. Bass, sec 377, 1½ mi s No. 1 Bass, dr 480 ft. Coreta Pet. Co.'s J. H. Burnett (Heden et al) 1, sh 47, porc 80, sd 1500 ft. Griffin & Kimbrough's Guerra 1, sh 298, porc 69, n of Mier, lcn. Harter & Maynow's Sanchez 3, sh 69, porc 72, n Roma, sd 512 ft. Marc Jenkins' Wm. Martin 1, sec 627, 13½ mi ne of Rio Grande City, sd 775 ft. Sun Oil Co.'s Chapatala Land Co. 1, porc 99, 600 ft w of production, dr 2170 ft. Otto W. Woods H. P. Guerra 1, lot 35, Conroe subd, porc 55, Mier Juris, spud in and shut down.

TRAVIS COUNTY—Albrecht & Brinkrueger, Sr.'s M. C. Swenson 1, 75-ac tr, L. Kimbro league, sec 5, sd 310 ft. G. A. Artz & Co.'s Wolff 1, Thomas Hancock sur No. 20, ½ mi n New Sweden, underreaming 6⅝ inch csg at 1160 ft. Sol-Mar Oil Corp.'s P. Carlson 1, 480 ft nl, 100 ft e of 40-ac tr in M. W. Smith sur, 4 mi n of Kimbro, lcn. Mrs. Turner's M. E. Abramson, 150 ft swl, 300 ft sel of M. E. Abramson 108-ac tr, L. Kimbro sur, dr 660 ft. Walden Oil Co.'s P. C. Willis Est, 40-ac tr, J. Kemp sur, top chalk 892 ft, top serpentine 952 ft, sd 1004 ft.

VICTORIA COUNTY — Barnsdall & Felmont's W. R. Smith 2, A. Murray sur, ab 259, Placedo field, td 5975 ft, dst 5948-70 ft, recovered 5 fourbles oil and 5 fourbles sw, 50 lbs pressure, coring ahead. Costa & Eastern Texas' Kruppa 1, Rupley sur, ab 290, td 6468 ft, pb and comp as gasser at 5360 ft. Rowan & Hope's A. W. Scheel 1, Scheel 795-ac tr in J. N. Escalera gr, lcn. E. L. Smith & Gulf Prod. Co.'s S. E. Wright 2, J. M. Brownson sur No. 8, Placedo area, td 6085 ft, under control. S. C. Yingling's Jacob Stehle 1, 15-ac tr, P. Gallardo sur, ab 32, 1 mi sw of Coleto Creek field, dr 5380 ft in sticky shale.

WEBB COUNTY—Foster Barnsley's C. H. Webster 5, ne¼ of sw¼ of sur 684, coring 3040 ft. O. W. Killam's A. M. Bruni 46, sur 455, dr 1816 ft; A. M. Bruni 6, tr B7, El Ranchito 6723.5ac tr, J. V. Borrego gr, td 1213 ft, abnd, salt water sand 1093-1100 ft. Luling O&G Co.'s Peal 1, 330 ft sl and el of nw¼ of se¼ of sur 72, clearing lcn. Payne & Martinez's Mrs. M. P. Perry 1, sur 771, lcn. S. S. & B. Oil Co.'s Lone Star Construction Co. 9 (now Lutex Oil Co.), porc 12, ½ mi nw of Laredo, sd 2003 ft. South Texas Oil Co.'s Fee 1, blk 21, sec 768, 1½ mi sw LYaurel field, sand 1728-42 ft, 7 inch csg 1729 ft, swabbing, show little oil. Southwest Drlg. Co.'s Rufing Lopez 1, ne¼ of sur 139, 4 mi n and e of Bruni and 5 mi s of Lopez field, dr 2752 ft, top Mirando 2452 ft. W. H. Vernor, Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, sd 995 ft.

WILLIAMSON COUNTY—Fritz Fuch's A. Bracker 1, Mahon sur, sd 1230 ft. Glass Bros. A. Albert 1, P. Coursey sur, sd 785 ft. Holdeman, Nations & Hornberger's H. F. Teggeman 1, sec 4, H&TB Ry. sur, 2 mi nw Thrall, sd 520 ft. G. A. Ripley's L. Malmquist 1, 105-ac tr, P. J. Wyche sur, 1½ mi se Coupland, dr 498 ft, shale. Taylor Refining Co.'s Christianson 1, R. H. Bissett sur, sd 1587 ft.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr in Conception Botello sur, 4 mi Poth, sp and sd. A. G. Reimenschneider's Lon Harrell 1, 209-ac tr in Manuel Baerrera sur, 5 mi s of Floresville, sd 890 ft, sand shale.

ZAPATA COUNTY—Ivan Howard et al's Y. Martinez 1, 330 ft nel and nwl of blk 1, sur 206, lcn. J. J. O'Hern et al's S. Seal 1, blk 3, porc 27, 7 mi ne of Charco Redondo field, coring 2400 ft.

ZAVALLA COUNTY—W. L. Bridges' E. B. Flowers 1, sec 19, blk 1, I&GN RR. sur, sd 304 ft. Frank Buttram et al's Whitecotton 1, B&M sur No. 1, mir. Leona Oil Corp.'s George West 1, C. Bustillo sur No. 1, dr 725 ft.

WYOMING

CARBON COUNTY — General Petroleum Corporation Whitford 1, sw se se 24-20n-84w, abdn 6400 ft. Had water. Union Pacific 1, sw nw 5-19n-83w, lcn.

NIOBRARA COUNTY—S. & H. Development Co., Olinger 1-A, cnl sw ne 1-35n-63w, sd at 1775 ft, waiting favorable weather.

Bronze-Welding Booklet

The Linde Air Products Company, 30 East 42nd Street, New York, has available a booklet "How to Bronze-Weld," a practical presentation of the theory and technique of bronze-welding and bronze-surfacing.

The step-by-step general procedure or bronze-welding and bronze-surfacing is given, as well as special information and advice. Other topics covered are preheating considerations; the bronze-welding of cast iron, malleable iron, carbon steels, alloys, wrought iron, galvanized iron and steel, sheet metal, copper, brass and bronze, nickel and Monel metal; and the joining of dissimilar metals. The procedure to be used in each case is described.

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This Week with the Industry's EQUIPMENT SUPPLIERS

First Aid Contests To Feature Oil Show

First aid contests will be held in conjunction with the Oil Equipment and Engineering Exposition at the Convention Hall in Houston, Texas, from April 20 to 25, inclusive.

This series of contests will be sponsored by the Harris County Emergency Corps, Incorporated, Houston Safety Association, (a division of the Houston Chamber of Commerce), and by the Oil Equipment and Engineering Exposition. They will be conducted under the "Demonstration Rules: United States Bureau of Mines Handbook" (1930 edition) and the "American Petroleum Institute Revised Contest Outline." Contesting companies will draw lots for dates to compete and for problems.

Elimination contests are being held by leading oil company first aid teams, and the winners of these contests will be entered in the first aid contests at the exposition.

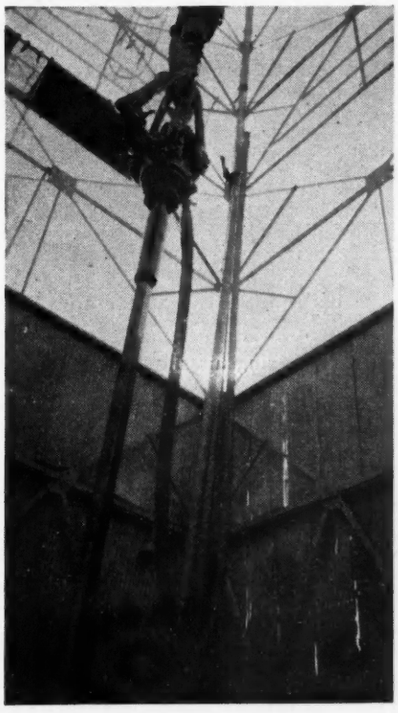
Entries have been made by the following organizations: United Gas Company of Jackson, Mississippi; the Magnolia Petroleum Company of Beaumont, Texas; the Texas Company, refining and pipe line divisions; two teams of the Shell Company Refinery; three teams from the Humble Oil and Refining Company, one from each of their refining, producing and pipe line divisions; the Empire Oil and Refining Company at Gladewater and the Louisiana Oil and Refining Company at Shreveport. A number of other entries are being considered.

Each team will work four problems, including that of artificial respiration. Not more than five teams will compete on any one date, and a committee of 10 judges will be in charge of judging, assisted by a chief judge and two supervising judges.

Policing, recording and distribution of prizes will be under the jurisdiction of the contest committee, composed of the following men: Theo. H. Felds, Harris County Emergency Corps, Incorporated; George Wilson, Houston Safety Association; Norman Beard, Houston Chamber of Commerce; E. G. Lenzner, Oil Equipment and Engineering Exposition; Frank Werner, American Petroleum Company; J. J. Delahide, E. D. Bullard Company, A.S.S.E.; B. W. Payne, chief, Houston Police Department; Jasper Davidson, chief, Houston Fire Department; Frank Holton, commissioner, City of Houston, and Bob Skelton, American Red Cross.

Four prize cups will be issued winning teams. The first three prizes will be for the efficiency of the competing teams, and the fourth prize will be issued by the E. D. Bullard Company for artificial respiration.

First aid stations will be established in a tent at the exposition.



Section of The B. F. Goodrich Company's "Hipress" rotary hose now in use on a third location in California after having served from 4500 to 11,377 feet on one well and for 3800 feet on a second well.

Caterpillar Reports Sales, Employment, Production Gains

Caterpillar Tractor Company announces sales for 1935 amounted to $36,447,193, as compared with $23,769,320 for 1934, and net profits of $3.16 per share, as compared with $1.94 per share for 1934. Net current assets totaled $22,243,865.99 on December 31. Dividends, paid quarterly, amounted to $2.00 per share.

B. C. Heacock, president of the company, says, "today there are over 3000 more men on the payroll than there were a year ago, more by 700 than there were at the previous employment peak early in 1930, a total of more than 9000."

New West Affiliate Is Geophysical Company

West Production Company, successful producer in the Gulf Coast sector for a number of years, recently aided in the organization of a new affiliate company, South Texas Geophysical Corporation, which will specialize in geophysical exploration work.

G. W. Somers, formerly connected with West Production Company, will devote full time to the new organization, heading several crews of picked geophysicists. In addition to having worked many important structures, Somers has had wide experience in Texas, Kansas, Louisiana and Oklahoma.

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STAYS on the Nut 'til the Nut is TIGHT!

SAVE TIME IN NUT TURNING

Many nut-turning operations in the oil field have to be done immediately. No old-fashioned open-end wrench, that has to be taken off the nut at every quarter turn will do.

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Squeaks from the Bull Wheel

Cradle Song Retreaded

Rock-a-bye baby, why do you fret;
Are you aware of the national debt?
Father has gone 'round the corner to vote
Millions in bonds for his snookums to tote.
Are you suspicious? Sleep while you can.
You can squirm later, dear, when you're a man.

The Good Old Days

An interesting document was brought to light during the celebration of the eightieth anniversary of the Carson, Pierie, Scott & Co. store in Chicago. Someone in that organization had preserved the rules for employes of their first store which read as follows:

"Store must be open from 6 a. m. to 9 p. m. the year around.

"Store must be swept; counters, base shelves and showcases dusted. Lamps trimmed, filled and chimneys cleaned; pens made; doors and windows opened; a pail of water, also a bucket of coal brought in before breakfast (if there is time to do so) and attend to customers who call.

"Store must not be opened on the Sabbath unless necessary, and then only for a few minutes.

"The employe who is in the habit of smoking Spanish cigars, being shaved at the barber's, going to dances and other places of amusement, will surely give his employer reason to be suspicious of his integrity and honesty.

"Each employe must not pay less than $5 per year to the church and must attend Sunday school regularly.

"Men employes are given one evening a week for courting and two if they go to prayer meeting.

"After 14 hours of work in the store, the leisure time should be spent most in reading."

Reverse

A farmer who was a witness in a hog stealing case seemed to be stretching a point or two in favor of the accused.

"Do you know the nature of an oath?" the prosecuting attorney roared.

"Sure."

"Do you know you are not to bear false witness against your neighbor?"

"I'm not bearin' false witnesses against him. I'm bearin' false witness for him."

When Life Begins

Several friends were assisting a New York architect in celebrating his fortieth birthday anniversary.

The cocktail hour was long drawn out, and just as the company sat to dinner a servant announced that the chief guest was wanted on the telephone by "a lady."

The architect's wife stared unbelievingly at her hitherto serious and hard-working husband as he disappeared toward the telephone. "It appears," she murmured, "that life really does begin at forty."

Independent

The banker was questioning the negro applicant for a chauffeur's job.

"Are you married?" the banker asked.

"Nawsah, boss," replied the applicant, "nawsah; Ah makes mah own livin'."

Wasting Some

Dad had been ill for several weeks, but was still keenly interested in the way the farm work was being carried on.

"Dave," he said, "how are the cows goin'?"

"Not too bad," Dave vouchsafed. "Gettin' about ten gallons a day."

"Ain't so bad," Dad agreed. "How much skim milk are we sellin'?"

"Nine gallons a day, Dad."

"How much cream?"

"Three gallons an' a bit, Dad."

The man in the bed did a bit of complicated mental addition. Then his smile vanished. "Wot th' 'ell are you doin' with the rest?" he demanded.

Get This One

Two friends, who had not seen each other for twenty years, met. One had a 10-year old girl by the hand, and in response to an interrogative glance by the other, said: "You did not know that I married 12 years ago?"

"No," said the other. "I congratulate you." And turning to the little girl, he said: "And what is your name, my dear?" he asked.

"I'm named for my mother," she said.

"Ah, in that case your name is Mary." How did he know?

Interesting

"What's the idea of all the crowd at church?"

"There's a traveling salesman down there confessing his sins."

Explained

A boy was about to purchase a seat for a movie in the afternoon. The box-office man asked:

"Why aren't you at school?"

"Oh, it's all right, sir?" said the youngster, earnestly, "I've got measles."

Cause and Effect

A very thin man met a very fat one in the hotel corridor. "From the look of you," said the latter, "there might have been a famine."

"Yes," was the reply, "and from the look of you, you might have caused it."

Addled

"I have cast these figures eight times, sir."

"Very good and thorough."

"Here are the eight results."

Oil Company OFFICE and FIELD FORMS

available at mass production prices

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up eight standard forms listed at right and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

Forms will be shipped prepaid at prices shown. Samples will be sent upon request.

Large volume of sales enables us to offer these forms at reduced prices as follows:

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101	DAILY TIME RECORD (In duplicate—100 sets to the book)
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106	DAILY DRILLING REPORT—3 Tours (In duplicate—100 sets to the book)
107	OIL, GAS & MINERAL LEASE (Producers 88-Rev.—100 to a book)
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These forms are printed on 16-lb. bond paper. They are substantially bound. Duplicates are printed on colored bond and perforated, pencil carbon included with each book.

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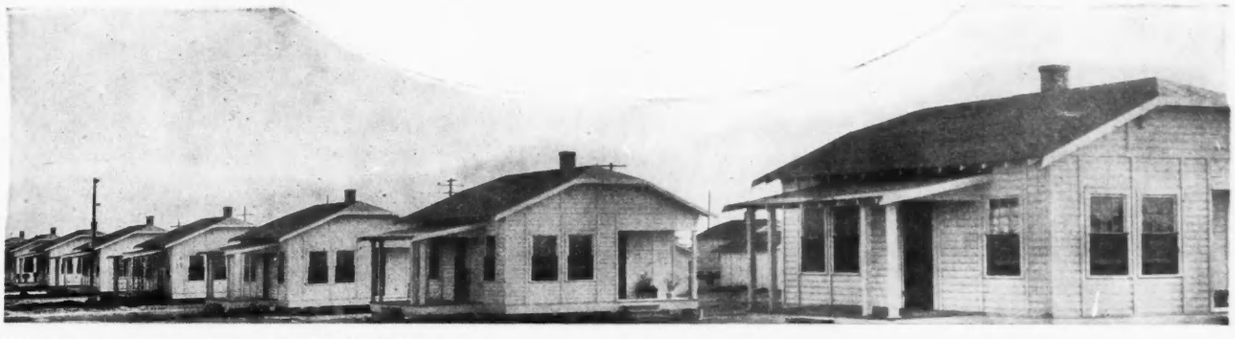
HOUSTON **TEXAS**



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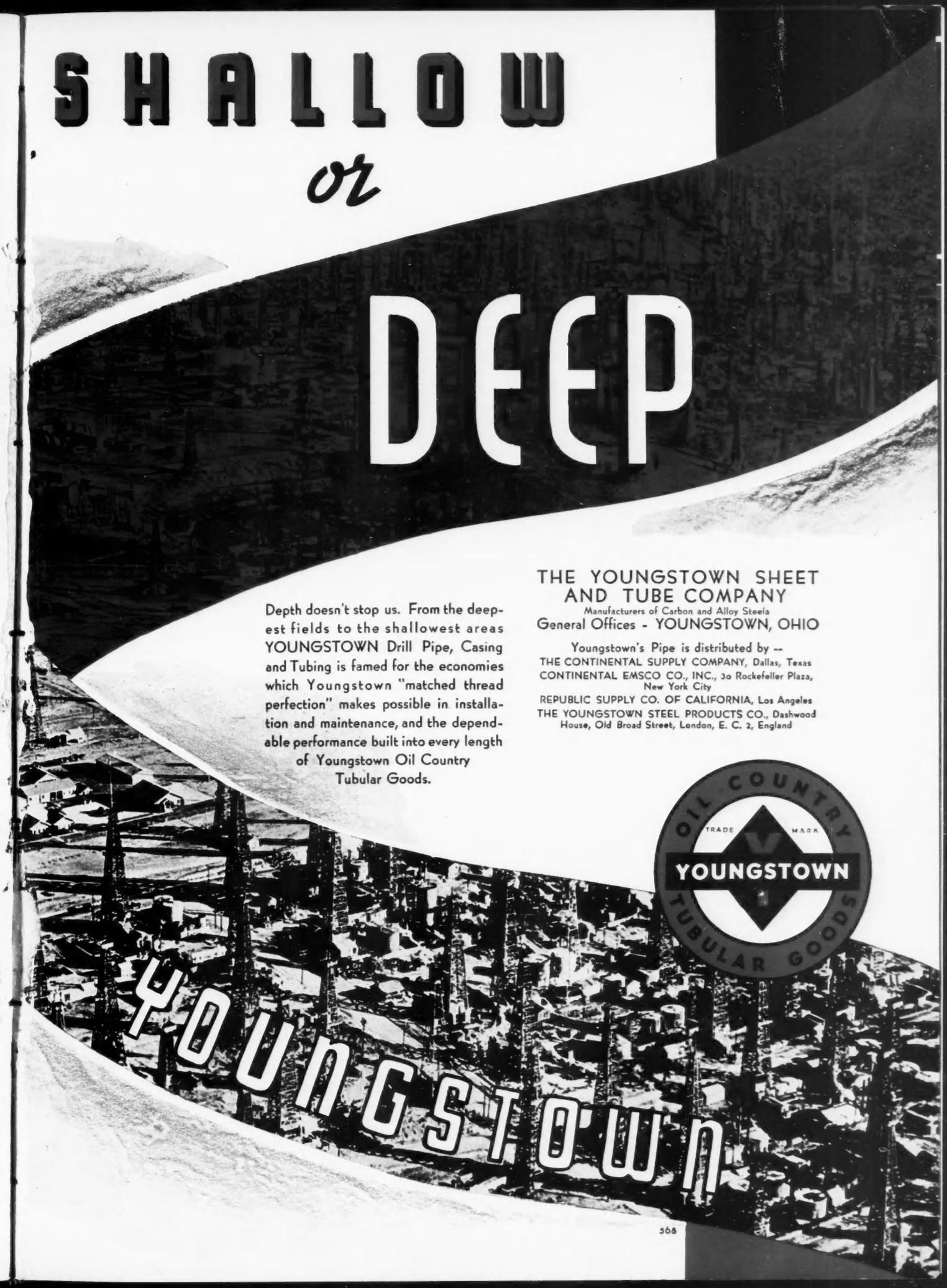

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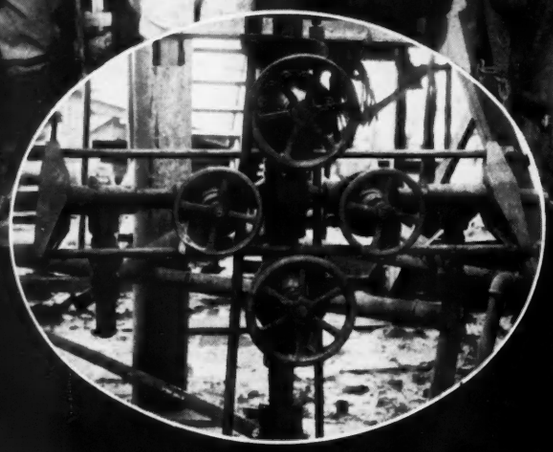

Hamman Exploration Company's
"MAY CLEVELAND" NO. 1
Bay City, Texas

MEN IN PICTURE, left to right:
John Hamman, Jr., Vice President
E. S. Rutherford, Drilling Supt.
Earl Warren, Derrick Man
Bo McCain
George Elan, Driller
Oliver Love, Fireman
John Shelby, Pipe Man

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